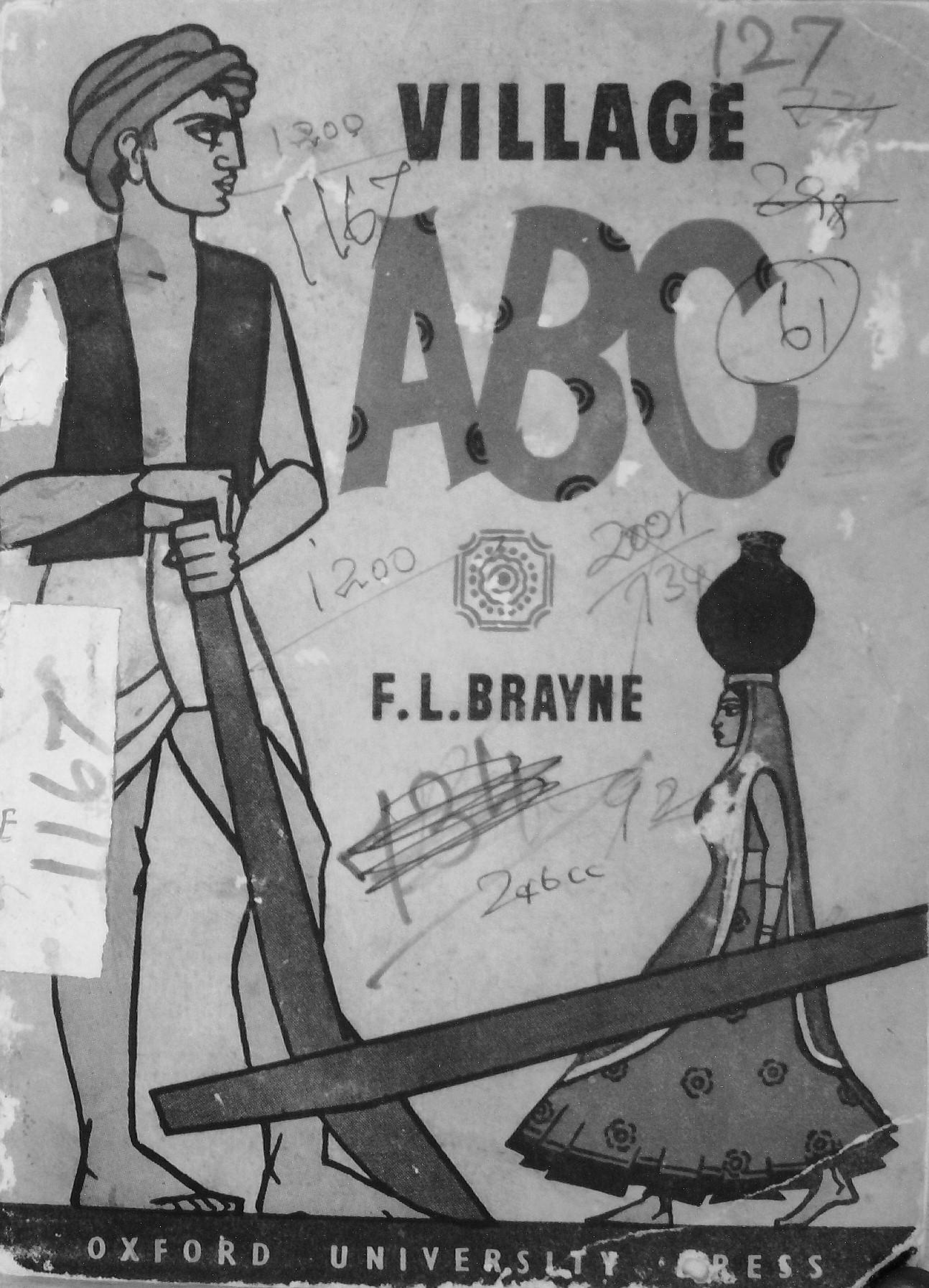
VILLAGE
ABC
F. L. BRAYNE
OXFORD UNIVERSITY PRESS

VILLAGE ABC

456 BRIEF HINTS
ON RURAL RECONSTRUCTION

BY

F. L. BRAYNE
C.S.I., C.I.E., M.C., I.C.S. (RETD)
Author of *Socrates in an Indian Village*, etc.

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INTRODUCTION

The object of all *Government* and of all PLANNING is the promotion of the welfare and *happiness* of the people, the men, women and children, in their homes and villages and it is in the villages and homes that all plans must start and where we must all look to find out what is needed to make our country happy and prosperous.

This book tries to help in this work. It is not a book of wisdom. It is a book of tips, in which I have tried to point out some of the simple ways in which we can make our homes and our lives more healthy, more happy, more comfortable and more prosperous. What I have said cannot be applied literally to every home and village in India and Pakistan but the underlying ideas certainly can. If I have been rude to anyone, please accept my sincere apology. I didn't mean to be rude, but as I had to say what I wanted in a very few words I sometimes had to be rather blunt.

Every word printed in *bold type* is the subject of a special paragraph and by turning up any words printed in capitals in the paragraph you are reading you can work out the whole subject. To make it as simple and as clear as possible I have tried to make a separate paragraph to explain each separate idea.

There is very little, if anything, new in this book. It has all been tried out and found successful and practicable somewhere, most of it in very many places.

I firmly believe that if the suggestions made in this book are put into practice they will bring about a vast improvement in the health, wealth, welfare and happiness of the homes and villages of India and Pakistan.

Abadi. The village houses are usually crowded far too closely together to be healthy. The streets are far too narrow. Once consolidation of the land has been effected, and the tidying up of the village has begun, the re-planning and the rebuilding of the whole *abadi* will have to be thought about. It may be years before everyone is ready to make a Village Re-planning Co-operative Society but in the end it will have to be done. By that time many of the farmers will have built their homes on their farms and this will make more room in the village *abadi*.

When re-planning the *abadi* there must be room for two carts to pass each other in the main streets. Trees must be planted along the streets and there must be pucka drains for rain water. There must be no back-to-back houses, and courtyards must be large enough for septic tanks or soak pits or little patches of vegetables, flowers and trees, so that no water from kitchen or wash-house need flow into the street drains. Courtyards, if large enough, may have latrines but there must be no latrine, soak pit or septic tank within fifty feet of a well or pump. Ample allowance must be made for all village needs, such as school, reading room, village hall, recreation grounds and religious buildings. There must be a circular road running round outside the houses; outside that road will be public latrines, pits for rubbish and ponds for the cattle. The subsoil water generally moves in one direction more than another and wells and water-tubes must be dug so that the subsoil water will not flow to them from the village.

The wind usually blows more from one direction than any other and that is called the prevailing wind. Cremation grounds, kilns for bricks and pottery, and ponds for steeping hemp and everything else that produce much smoke, smell or dust must be so placed that this prevailing wind will not blow them towards the village.

Accuracy. There must be no vagueness about the uplift programme. It is no use telling people to keep their village clean. We must tell them exactly how long, wide and deep the pits must be and where they must dig them. It is the same with ventilators, seeds and everything else. We must know exactly what has to be done and how it has to be done. This does not involve a great deal of difficult study. The programme is quite simple and it is our duty to learn it in exact detail. Wherever we are we may be able to help in carrying it out and so we must learn it accurately and keep our eyes open, both to help and to learn more. (See TRAINING and GOVERNMENT SERVANTS.)

Allotments. Whenever possible, in town and country alike, it should be possible for clerks, shopkeepers, artisans, labourers, and every one else who wants to, to obtain a small plot of land in which he may grow a few vegetables and flowers. It will provide great quantities of much needed food of the best kind (see PROTECTIVE FOODS) and it will bring the town and country, agriculturist and non-agriculturist, together and give them a common

interest, and it will give everyone a new and interesting sideline to spend his time and thoughts on, and thereby prevent idleness which leads to mental stagnation or to wasteful and mischievous occupations such as faction and litigation.

The best way perhaps to organize allotments would be by a Co-operative Society. It would get hold of the land, the water (a well or whatever else was necessary), and the more expensive equipment, and would arrange for what the allotment holders could not do themselves (e.g. any ploughing necessary, a watchman, manure, seed, technical advice).

Air. (See LIGHT.)

Animal Husbandry is the keeping of LIVESTOCK for profit, and has six principles:

(i) Keep only the best. Get rid of all animals that are not earning their keep. Sell them as quickly as you can and never mind if you get very little for them. They are only making you poorer.

(ii) SELECTIVE BREEDING.

(iii) Proper FEEDING.

(iv) Proper STABLING and proper MANAGEMENT.

(v) Control Disease. (See HEALTH OF ANIMALS and EPIDEMIC DISEASES OF CATTLE.)

(vi) Make full use of departmental EXPERTS and veterinary hospitals.

The best way to keep livestock is to join together with your neighbours in a CO-OPERATIVE SOCIETY for each kind you keep such as cattle and poultry. There are also CO-OPERATIVE MILK RECORDING and VETERINARY FIRST AID SOCIETIES. By joining a Co-operative Society you help yourself, you help each other, you keep each other up to the mark, and you get the best of everything.

Be sure you attend any CATTLE SHOW or *one-day show* in your neighbourhood.

Anopheles. The malaria-carrying mosquito. He stands on his head with shame, so can easily be recognized. Culex is the harmless mosquito and stands with his head and body in an arch. They both start as eggs laid in water by female mosquitoes and live there for some days as little black wrigglers (larva). The anopheles larva lies flat just under the water, the culex lies at an angle. But destroy all mosquitoes and oil all standing water that you cannot drain away or fill up with earth.

Anopheles (it is the female who does the mischief) gets the malaria germs by biting some one who has malaria in his blood, and passes them on by biting another person. But she cannot pass on the germs for ten days after getting them herself, so you have ten days in which to kill her (see MALARIA) and stop her spreading malaria. So if you hunt and kill every mosquito every day, very few will last the ten days. Mosquito hunting is done by stirring the curtains and looking in every likely place and catching the mosquitoes with soapy hands; make it a children's game. Buy and use flit, *D.D.T.* or *Gammexane*.

Every schoolboy and schoolgirl and every official and every leader and every social worker should be able to recognize anopheles, both larva and mosquito, and know where to look for them and how to kill them.

Anthrax. A very sudden and deadly EPIDEMIC DISEASE OF CATTLE, caught by eating grass, or through wounds in the feet or legs, when grazing where an anthrax carcase has lain unburied or has not been buried deep enough. Symptoms:

high fever and temperature and, after death, blood often dribbles from the mouth or rectum.

If any case occurs get all cattle inoculated.

If an animal dies of anthrax bury it very deeply—and cover it with lime. Burn all fodder that has been touched by the animal and scatter *bhoosa* or other rubbish on the ground where it lay and burn it to kill the germs of the disease.

Apathy. The besetting sin of the villager. He is content with things as they are. He is without ambition for a higher standard of life. This apathy is the result of the bad old days when he was the sport of climate and disease and had no knowledge of a better life than the one he was already leading. In those days however well he farmed, unless the rain came he got no crops. However badly he farmed good rain would cover his sins and give him a bumper crop. At any time plague, pests, locusts, hail or caterpillars might wipe out his crops, his cattle or himself. What was the use of worrying? 'Eat, drink and be merry, for tomorrow we die,' was his motto.

Science, research and organization have changed all that. We now have wells, canals, hydro-electrics, roads and railways. We know the causes and remedies of most of the principal plagues and pests, of man, beast and crop. We have new crops, new industries, new occupations, new methods. Given hard work, intelligent work and co-operative work and given thrift and good citizenship the villager is largely the master of his own fate. He can be happy, healthy and if not wealthy, at least reasonably comfortable. Apathy therefore is now out of date and the villager must wake up and strive for a higher standard of living. This is UPLIFT but it requires *conviction* and an *incentive* to start the ball rolling.

Apathy and listlessness can be greatly increased by *malaria and hookworm*, two extremely debilitating and entirely preventable diseases.

Arbitration. Litigation is one of the greatest curses of village life. The best and cheapest way to settle disputes is by arbitration, and the best way to arbitrate is through a *Co-operative Arbitration Society.*

Co-operative Arbitration Societies attempt to include at least one person from each family in the village. Members when they join agree together under a penalty of a fine to bring their differences to the society before taking them to court. A panel of arbitrators is chosen by the society and each disputant is free to choose one arbitrator, while the third may be selected on behalf of the society. These arbitrators then hear the case and as they are fully aware of the true facts they can give a correct decision. There is an appeal to the Provincial Registrar but in a good arbitration society where members are convinced of the advantages of arbitration and have confidence in the honesty of the arbitrators there are seldom any appeals against their decisions.

Armistice Day should never be allowed to go by without a very large programme of RALLIES AND RE-UNIONS of ex-service men. Except in areas where recruiting has been very light, it should be made possible for every ex-service man to

attend a rally within reasonable reach of his home. There is no better material for the *uplift* of a country than its EX-SERVICE MEN and they must be kept together and never allowed to think they have been forgotten. It will take time and effort and a little money to do this but it is well worth while to keep the ex-service men in good heart, so that they may be as great an asset to their country as citizens in peace-time as they were as soldiers in war-time. Much money and effort were spent in training the SERVING SOLDIER in citizenship. It would be foolish to lose all this by neglecting him once he has left the Forces.

Army. The Army, Navy and Air Force can do a great deal to prepare their men for civil life when they leave the Armed Forces:

(i) They can teach and practise saving, and insist that no one shall take away more than a few rupees in his pocket when he goes home. For the rest he will have his pass book either of the Savings Bank or of his village Co-operative Society, if that has been approved for savings accounts. The use of the Savings Bank will help to expand the postal system in areas where recruiting is heavy. As all ex-service men should be organized in co-operative societies, savings and co-operation will help each other.

One way of teaching and practising savings would be to use the Savings Bank as the pay and accounts office. When a man or boy enlists a Savings Bank account would be opened in his name and every payment to him throughout his service would go through the Savings Bank and when he went home his account would merely have to be transferred to his nearest post office.

(ii) They can make the *jawan* a handy man by teaching gardening, farming and all manner of crafts and SIDELINES and by encouraging all manner of hobbies. (See SOLDIERS.)

(iii) They can encourage their men to experiment with the designing of all manner of tools and gadgets for home, garden, farm, or crafts and by holding better homes exhibitions. (See DOMESTIC ENGINEERING.)

(iv) They can spread good health by making the *jawan* understand and practise all the principles of good health and hygiene.

(v) They can help to spread good citizenship by teaching it to all ranks. The principles of civilization, of co-operation, the necessity for unity, toleration and self-control, the duty of working with the local leaders and with Government must be carefully taught.

(vi) They can provide domestic training and Co-operative Women's Institutes for the women, and they can educate their children, in the married-lines. In this way a stream of light will spread from the Army into the houses of the people in the remotest hamlets and the men when they leave the Colours will not be allowed to slip back into the old ways.

(vii) They can break the 'double-life complex', where a *jawan* willingly practises every item of the better life programme in the unit-lines, from the use of latrines and mosquito nets to unity and toleration, but when he goes home he drops all his good habits and refuses to realize that what is right and proper in the Forces is still more right and proper in the village home.

Artisans must move with the times. They should learn how to mend and service Persian wheels, engines and

pumps, furrow-turning *ploughs* and *harrows.* Many modern implements can even be made in the villages. They should be able to make *hay-boxes, chimneys* and fuel-saving *grates.* They must work in *cement* concrete. By encouraging a high standard of living they will increase their own turn over and profits.

Backward. A backward country is where the *women* are considered inferior to the men and are not treated as their equals and are not given as good an *education* and training, but are neglected and do not share equally in the great work of promoting the health, happiness and prosperity of the country.

It has been calculated in Europe, that in a country of small-holders (such as India and Pakistan are) the *housewife* is responsible for more than two-thirds of village life. We expect the men to farm or carry out their craft efficiently, to bring home their earnings, to keep the village clean and not waste their time and money in faction and litigation. All the rest is in the hands of the women, everything that makes a home happy and healthy. The standard of a country is the standard of its homes. The standard of home is the standard of the woman as she is in sole charge of it. The standard of the country therefore is the standard of the woman. Backward women therefore mean backward countries.

Barter. A very wasteful method of shopping often used by the village housewife. She takes an armful of cotton or a vessel full of grain to the shop and uses it as money to buy her household supplies. This produce is neither weighed nor priced and she may get less than half its value in goods.

The housewife must always pay cash, but till she can read and write she is unlikely to keep and deal in accounts, and have a Savings Bank or a Co-operative Bank account. So the quicker the girls go to school and learn these things the better for the economic welfare of the village.

Bees. A very interesting and profitable sideline. Bees kept in the modern way will produce much more honey than they do now, and honey extracted in the modern way is worth far more than honey extracted in the present way.

By the new way all the combs are built by the bees in wooden frames provided by the bee-keeper and the honey is stored in a separate place from where the bees live and bring up their young. The queen bee cannot get to the honey store (she is kept out by a 'queen excluder') and so cannot lay her eggs there. The movable frames enable the bee-keeper to look after his bees properly and by keeping the queen out of the honey store it is possible to get clean transparent honey.

In India and Pakistan the bees are kept in the walls of the houses. In the West we keep them in special boxes in the garden. It is probable that bees can quite well be kept in the modern way in the walls of the houses but the wooden frames and the separate place for the honey store are absolutely necessary.

Once the bees can be properly looked after more honey can be got

and clean pure honey can be got which is worth many times the sort of mixture now sold as honey. Consult the Expert about it.

B. E. L. R. A. The British Empire Leprosy Relief Association was founded in 1924, to raise money and carry out research into the causes and cure of LEPROSY, to advise and help Missions and Governments in their leprosy work and to train and provide doctors and nurses and other workers, to supply medicines and bandages, to assist in providing and maintaining treatment centres and to teach the public what they should know about leprosy, in order that they may co-operate to the full in the work.

B. E. L. R. A. wants your money and your help. If you are not subscribing to any leper settlement, or have not 'adopted' a leper, then subscribe to B.E.L.R.A., and take an interest in its work. (See LEPROSY TREATMENT.)

Berms of roads. When a public road goes past the village, it is usual for the road builders to block the drainage of the village on the side towards the road. The result is that water from wells and streets collects in filthy black pools on the berm of the road.

Roads must not be allowed to block village drains. The road builders must co-operate with the village and assist in getting rid of drainage or rain water that is liable to collect between the village and the road.

Nor must borrow pits for roads be dug near villages for *anopheles* mosquitoes to breed in. Roads must spread civilization not filth and disease.

Better Homes Exhibition. (See DOMESTIC ENGINEERING.)

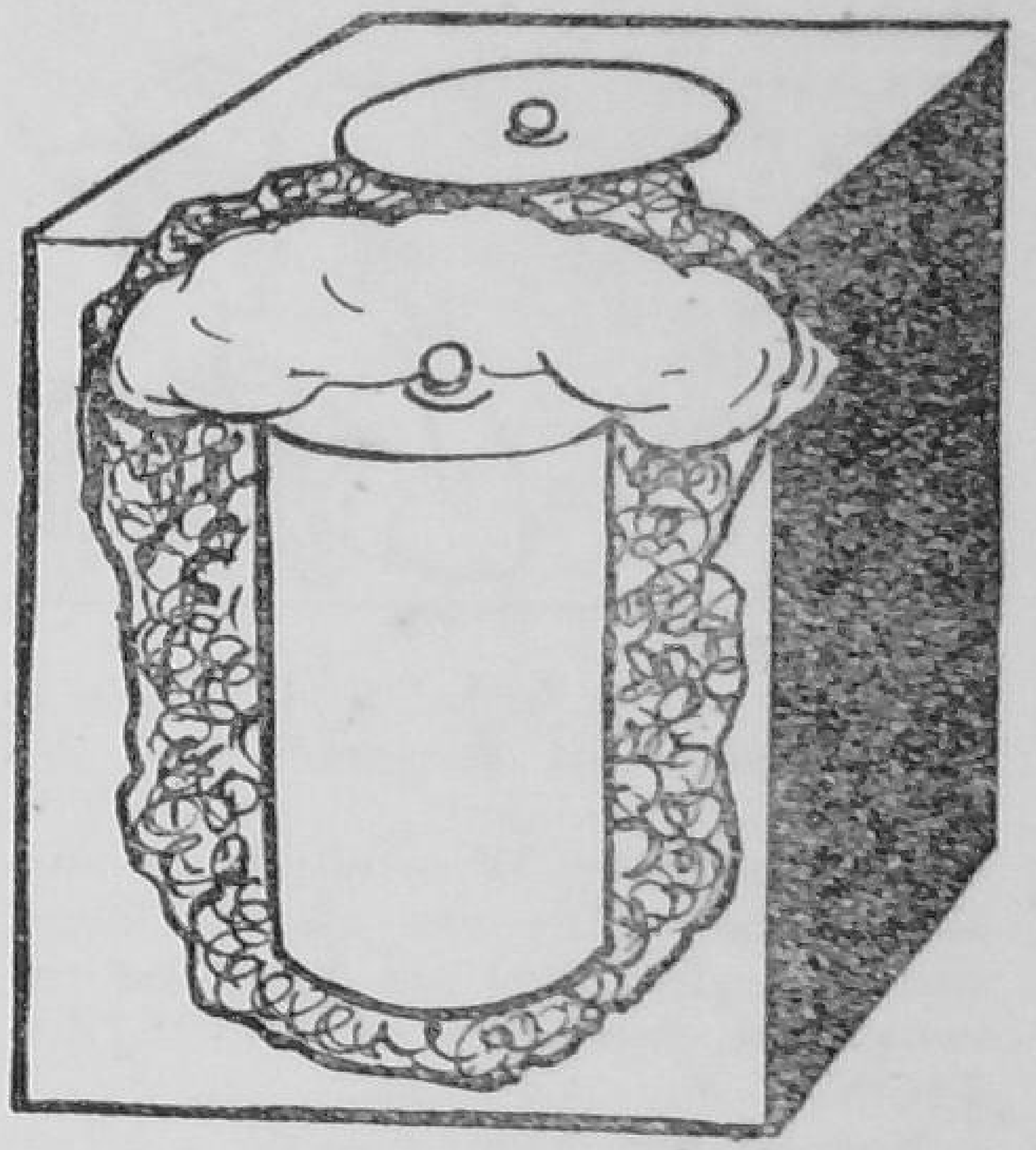
Better Living Co-operative Society. Each definite job such as poultry keeping, better farming, or weaving has its own definite Co-operative Society, but Better Living Societies undertake all the many things that have to be done to make village life happy and healthy, but for which there is no special society. I mean such things as ventilators, improved wells, vaccination, trained *dais*, hay-boxes, village roads, games clubs, radio sets and newspapers. Any odd job for which there is no society can be looked after by the Better Living Society. When there is both a Panchayat and a Better Living Society in the same village they must work together carefully or they will quarrel and spoil everything. There is certainly room for both in a progressive village; the Panchayat would of course carry out its duties under the Panchayat Act and would probably undertake the things which are laid down by such laws as the Health Act, the Compulsory Education Act, the Soil Conservation Act, the Weeds Act, etc. The more or less voluntary ones such as games and radio would probably be done by the Better Living Society.

At the same time every Co-operative Society should do a reasonable amount of 'better living' as part of the general object of co-operation to raise the standard of living. Members of Co-operative Societies must have nice homes and clean villages. What is the good of having good poultry if one has ailing children? What is the good of being a good farmer if one's wife is a bad housekeeper, one's home is dark and smoky, and the village filthy?

Better Methods. New and better ways of doing things are always being discovered. So whether it is farming or crafts or health, housekeeping or house-building be on the look out

for new ideas and try them out. The world is changing (see CHANGE) and we must change with it. All over the world things are changing every year, and those who refuse to keep up to date find it hard to make a living.

Bhoosa Box. (See HAYBOX.)



Burdizzo. A castrating instrument kept at veterinary hospitals. It does its work with the least pain possible and no blood.

CO-OPERATIVE CATTLE BREEDING and MILK RECORDING and VETERINARY FIRST AID SOCIETIES should always have their own Burdizzo castrators.

Those who keep a large number of cattle should also have their own Burdizzo castrator for their own and their neighbours' cattle.

Birth Control. Should artificial birth control be taught? Apart from moral and religious considerations there is one fact which must be considered. India is short of leaders and of educated people. If artificial birth control were regularly taught, the first people to learn and practise it would be the very leaders and educated people of whom India so urgently needs more and more, to help to raise the general standard of living. Publicity and education are so backward in India that before the knowledge of scientific birth control reached the general mass of the people and they were convinced of the desirability of practising it, the shortage of leaders brought about by birth control would seriously handicap further progress in raising the standard of living.

Birth Control of Animals and Insects. Whatever we think of birth control of human beings, we must control the breeding of our domestic animals so that we may steadily improve them and make them sources of profit and not of loss, as so many of them are now. (See SELECTIVE BREEDING.)

We must also control or rather prevent the birth, as far as we can, of all the animals and insects that damage our crops and our health, such as parrots, rats, snakes, porcupines, flies, fleas, lice, *kutra* moth, mosquitoes and all the rest of them.

Black Quarter, an Epidemic Disease of Cattle. The symptoms are fever and swelling on the hind quarters, sometimes on the forequarters, so painful that it generally lies down. The swelling crackles on pressure as if it contained air. Usually attacks young cattle.

If a case occurs get all your cattle inoculated at once.

Bottling and Canning of fruit and vegetables. An excellent way of

securing good food all the year round and also of making money. The equipment for doing it on a small scale does not cost much and the work is easily learnt from the Expert.

Borrow Pits. When making roads, railways and canals or when digging out earth for any purpose whatever, it must be remembered that a hole in the ground may be a pool of water when it rains, and may therefore breed mosquitoes and spread malaria. (See BERMS OF ROADS.)

When holes and borrow pits are dug, drains must also be dug to keep them empty. If this cannot be done, they must not be dug within half a mile of a village or hamlet. Earth must be carried long distances at whatever expense necessary rather than that the health of the village be permanently spoilt by having malaria brought to them by digging holes and borrow pits nearby. It is better and cheaper to spend more money in earth work than to save it by spreading malaria. Malaria must not be brought to the people in the name of progress.

Borrowing Money. Money should only be borrowed for productive purposes. Weddings and such-like affairs must be financed from savings. Money borrowed for a well or a workshop can be repaid from the income such things help to produce, but there is no income from a wedding or a funeral and therefore no means of repaying the money borrowed for it. (See CREDIT MONEY and INTEREST.)

Boy Scouts. Every boy should if possible join a Boy *Scout troop*. Scouting is great fun for boys but it is much more than that. Scouting teaches boys how to live and how to get the best out of life. Most lessons are dull and unwillingly learnt but the Boy Scout learns as he plays. He learns leadership and initiative. He learns self-help and self-reliance. He learns self-respect and self-control. He learns to become a handy man, able and eager to help other people. He learns that all men are brothers. His honour is to be trusted.

His duty is to be useful. He is loyal to his parents, his comrades and his leaders.

The principles of scouting, co-operation and uplift are all the same, and in reality they are based on the two great principles of CIVILIZATION.

A good Boy Scout can do a lot to uplift his home and village, and can help the uplift movement in all manner of ways. (See ANOPHELES, CEMENT, CHIMNEYS, FLOWERS, LIGHT AMBULANCE and LIGHT TRAP.)

Scouting is the best game in the world. But like all games it must be played according to the rules if you want to get the best out of it. The rules are contained in the SCOUT ' PROMISE, the SCOUT LAW and Lord Baden-Powell's book *Scouting for Boys*.

The education department will be the keenest supporters of scouting and give it all their good will and as much help as they can. But the Boy Scout movement should have its

own organizing staff in the Districts, and not rely entirely on the unpaid and over-time services of the Education Department. The Education Officer has a whole-time job and if he is also to run scouting he must neglect something else.

Brains. No farmer can farm well without brains. Farming is a very scientific job, and not one for the ignorant or for those who hate new ideas. Farming is continually changing (see CHANGE) not the basic things which depend upon climate, soil and nature, but the things which depend upon man, such as discovery, designs, machines, prices, fashions, and markets. A farmer must therefore be forever thinking and planning. Once he gets into a groove he is ruined. The farmer must always be looking out for new things, new crops, new markets, new everything. He must be always listening, reading, visiting other farms, asking questions, and he must always be ready to try out on a small scale anything new which he thinks may be useful.

All this applies to the craftsman and the housewife, in fact to all of us. No one can afford to let his brains get rusty nowadays. If we do we shall not only get left behind in this changing world but we shall not get the best of all the new things continually being found out, by which farming, crafts, health and home may be improved.

Bribery. A terrible curse. It spoils Government and ruins the people. LITIGATION, BRIBERY, FALSE EVIDENCE and FACTION all go together and we cannot live in peace together and have good Government till we get rid of them all.

Causes of Bribery:

(i) Low standards of honesty and conduct, the love of money, the decay of religion, bad education, feuds and factions.

(ii) We expect Government and its paid officials to do everything for us instead of doing all we can ourselves.

(iii) Low wages and poverty.

(iv) Delays and defects in offices and law courts.

Remedies:

(*a*) Better *education*—more practical and must include training in citizenship and leadership.

(*b*) Mothers must be trained to bring up their children as truth-speaking, self-respecting, self-controlled, God-fearing citizens.

(*c*) Work and play. We must all be busy; better farming, better industries, better business, better living, better games and RECREATION to get rid of poverty, IDLENESS and FACTION and to give the devil less chance of making mischief.

(*d*) CO-OPERATIVE SOCIETIES.

(*e*) PANCHAYATS, etc.

(*f*) A living wage, good prospects and good CONDITIONS OF SERVICE for the lowest ranks of public servants.

(*g*) Better organized Government offices and law courts.

If there are no givers of bribe there can be no takers. Government servants, when they start service, are no better or worse than the rest of us. If they learn to take bribes it is we who have helped to teach them to do so. Once the root causes (low wages, etc.) have been removed Government and people must make a combined drive to get rid of bribery. Bribe givers and takers must be outcasted. Villages must join together in societies whose members undertake never to give or take a bribe and to give true evidence against those who do, regardless of who they are.

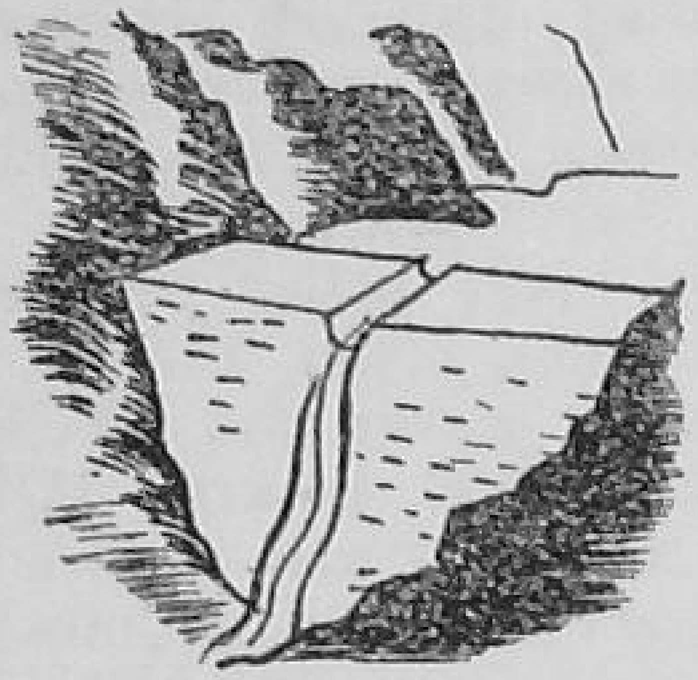
Bunds. Vast quantities of water which are now wasted and lost might

be saved and used to grow crops by building BUNDS.

(i) Small bunds must be made in fields to prevent rain water running away. (See EMBANKING.)

(ii) Contour Bunds and trenches must be made.

(iii) Bunds should be in every *nulla* in which water flows after rain. All down the course of the *nulla* wherever there is a good site and enough water, a bund should be built, either (*a*) a storage bund to collect water to be used down below for growing crops, or (*b*) a bund to flood the land just above the bund, which will be sown later on when the water has dried up or been let out of the bund. Each year the fields above the bund will get more flat and more fertile with silt brought down by the water.



The larger bunds must probably be built by Government but smaller bunds should be built by *Co-operative Societies* of the people up above and down below who will benefit by them. If the bund is to be very high or very low *expert* advice should be obtained about levels, escapes, etc.

Besides enabling farmers to grow more crops by flooding or irrigation, bunds will raise the level of the sub-soil water in the *wells* round about and down below. They will also help to prevent flooding and damage down below by holding up water in times of heavy rainfall.

Cactus is often a serious pest occupying valuable land and absorbing moisture from the soil which is wanted for crops.

Cactus can be entirely and harmlessly eliminated, free of charge, by the introduction of the little white cochineal insect. Ask the expert to get them for you. A small parcel of these spread over a few plants will kill them in a year. As the insects increase they can be spread to other plants and patches, and when they have done their work, they disappear and do no harm whatever to anything else.

Canal Water. The distribution of canal water is a most intricate and scientific business. There is just enough water for everyone if they all keep the rules and behave as good citizens. (See OUTLETS and ECONOMIZING OF CANAL WATER.) But if people are careless or selfish then there will not be enough water to go round. The moment one person starts behaving badly the people towards the tail of the canal begin to suffer and they start being selfish and so on. Before long water is being wasted in all directions, a few are getting more than their share and the rest are getting less. Stealing water is as bad as stealing money and wasting water is wasting other people's food and the wealth of your country.

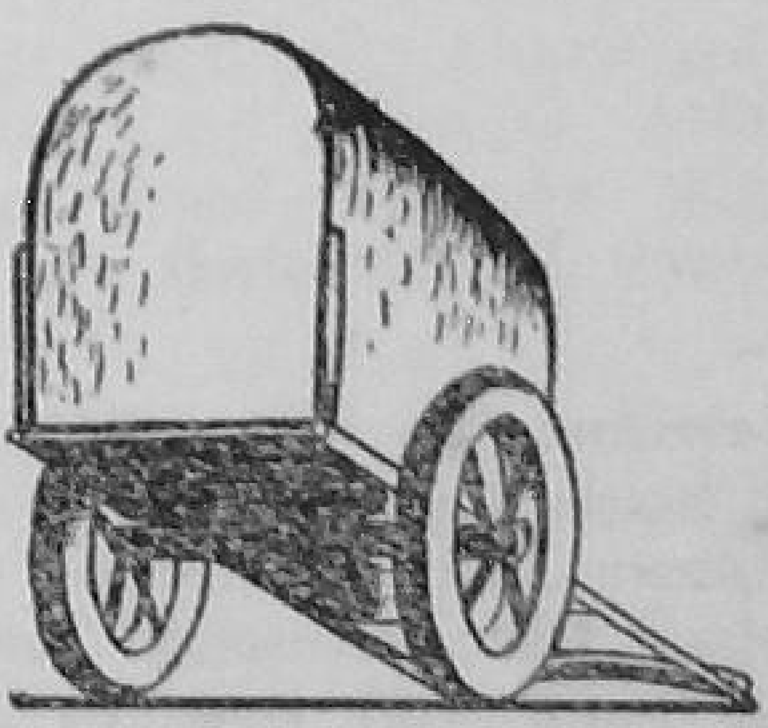
Cane-crusher. Usually worked by bullocks, but there is one kind which is worked by an engine. It works much quicker and gets you more juice out of the cane. In fact the extra juice will pay most, if not all, the cost of running the engine, and your bullocks will be free to do other work. A CO-OPERATIVE SOCIETY would be needed to run a 'power' crusher, as it costs a lot of money to buy and will crush far more cane than one man will grow.

Cane Sets. The night before you plant your sugar-cane put the sets to

soak in water. This will give them a good start and they will not need so much water in the soil as they would if you planted them dry.

Carts. Iron tyres and wooden wheels wear out metalled roads very quickly and cut deep ruts in unmetalled roads. Rubber-tyred wheels harden and improve unmetalled roads, do very little harm to metalled roads and are far easier to pull. Bullocks can pull far bigger loads with far less effort if the wheels of their cart have rubber tyres. All carts therefore must have rubber-tyred wheels and an 'under-carriage' with axles and rubber-tyred wheels must be designed which can be easily and quickly bolted on to the existing carts. This will enable rubber wheels to be quickly introduced without scrapping the existing carts. Meanwhile a new rubber-tyred cart must be designed to take the place of the present carts as they wear out. The new cart will carry more and be in every way of a better design than the existing cart. If the under-carriage described above can also be fitted to the new cart, so much the better.

To encourage the use of rubber tyres, Government and local bodies must insist that all their own carts and the carts of all contractors carrying building or road material or water or rubbish or anything else for them shall have rubber tyres. Where there are wheel or cart taxes, rubber tyres must receive concessions. It may be necessary outside big towns where cart traffic is heavy to have



puncture-mending stations or patrols so that cartmen can be helped when their tyres go flat.

Rubber tyres will bring such a saving to the road-makers and make goods traffic so much easier for the bullocks that it must be encouraged in every way possible.

Cash. (See RUNNING ACCOUNT.)

Cattle. India and Pakistan have many distinct and excellent breeds of cattle and each breed is usually either a milk breed or a draught breed, that is to say, the cows of the milk breeds are good milkers but the bullocks are not specially good for the plough. The bullocks of the draught breeds are excellent POWER units but the cows are not good milkers. There are such things however as DUAL-PURPOSE CATTLE. (See FOREIGN CATTLE.)

Cattle Breeding Co-operative Society. Essential for improving the quality of cattle. A Cattle Breeding Society must do the following things:

(i) Keep a stud bull, and a stable and a yard where it can be shut up when it is not desirable to let it run loose.

(ii) All other bulls must be castrated or got rid of.

(iii) Selected cows must be ear-marked and registered and calves recorded.

(iv) All animals must be inoculated against the various diseases likely to attack them.

(v) Special prizes and premia are given for the quality of the stock, the care devoted to them and the way the veterinary officer's instructions are followed.

(vi) Milk must be recorded.

(vii) Funds are found by small

entrance fees, covering fees for cows of non-members and at lower rates for members too, and small fees on the birth of calves and sale of cattle.

Societies should spread out from a centre so that more and more control may be obtained; more and more scrub cattle will be got rid of, the records will become more and more accurate and the value and price of the member's cattle will keep on rising.

Cattle Shows. Very useful to encourage the improvement of cattle and other livestock. There are prizes for the best animals of each class and breed, and an exhibition. The exhibition consists of pens of cattle (selected from the neighbourhood if possible) showing the results of good and bad breeding, i.e. one pen has a good bull, a good cow and an excellent calf. Another has a good bull, an indifferent cow and a fairly good calf. The third has a bad bull, a good cow and a bad calf, and the last has a bad bull, a bad cow and a very bad calf. (See SHOWS, ONE-DAY SHOWS and PUBLICITY.)

Cattle Stealing. Cattle stealing is almost a sport in some places and many big people patronize it. In reality it is a great nuisance, bad citizenship and a disgraceful crime, and it helps to keep India poor. It dislocates life, the farmer cannot plough, the housewife cannot feed her children, the cattle have to be brought into the village at night, bringing with them flies and dirt, and the fields lose their urine and much of their dung.

Government and people must join together to fight cattle stealing:

(i) Cattle should be TATTOOED or branded.

(ii) Report all cases of theft to the police, give true evidence in all cases and treat cattle thieves not as heroes but as criminals and outcastes.

(iii) CONSOLIDATION OF HOLDINGS will help. Fields will begin to be FENCED and thieves will have to keep to the roads. Farmers will live on their farms and when the cry of thief is raised in the night, and the farmers turn out, the thief will find people on all sides of him.

PANCHAYATS and *Jirgahs* could help greatly if they were well organized and honestly run, as they can usually find out who the thieves are and whether the suspicion of the owner of the lost cattle is correct or not. Witnesses are far more likely to tell the truth and if they do not, they are far more likely to be found out, in a Panchayat or Jirgah, than in a law court. On conviction imprisonment must always be awarded and a fine sufficient to cover both the full value of the animal stolen and the trouble and loss caused by the theft. If the animal is restored imprisonment should automatically be halved and the value refunded. This would encourage thieves to give stolen animals back and so undo some of the harm and mischief caused by the theft.

Cement. Very useful for all manner of home gadgets, the frames of ventilators, latrine squats, drains, well-tops, water-troughs, water-channels, the sides and bottoms of grain-bins and godowns; even roofs and beams can be made with the help of cement. Every schoolboy and Boy Scout should

learn to use it. The Association of Cement Concrete of India will gladly help in teaching how to use cement. (See CEMENT PLASTER.)

Cement Plaster for lengthening the life of mud walls and roofs. (See DIGGING.) Materials: 75 cubic feet of earth, 25 cubic feet of sand, 4 bags of cement, 5 to 8 maunds of *bhoosa*, 20 lbs of sodium carbonate.

How to make it:

(i) Dissolve the sodium carbonate in enough water to soak the *bhoosa*.

(ii) Add the earth and mix up to a *Gâra* (a sloppy mud-pie).

(iii) Leave for a week, and work it up every day, adding water to make up for evaporation. By then the earth will be completely dispersed and the *bhoosa* well rotted.

(iv) Mix thoroughly the cement and sand and add to the mud-pie, mix thoroughly, work it all up and use at once.

(v) Wet the surface of the wall or roof thoroughly and lay on half an inch thick. Spray it gently with water particularly in summer to prevent it drying too quickly.

Consult the expert. The Association of Cement Concrete of India will also help.

Chaff-cutter. A chaff-cutter costs a little money but it saves its cost several times every year. (See FEEDING OF ANIMALS.) If you do not chop up the fodder a great deal of it will be wasted. The animals will eat the tops and leave the thicker stems to be thrown away. If you chop it up they will eat everything. When you have only a little green fodder chop it up and mix it with the dry fodder. It will make the dry food more palatable and everything will be eaten. Keep the knives of your chaff-cutter sharp.

Change. Until recently farming and crafts were the same as when Adam and Noah first used a plough or a loom. But now everything has changed and if we wish to survive we too must change.

(i) Increased population. In the old days villages were far apart and there was unlimited grazing for the animals and unlimited land to plough, so that there was no fear of over-grazing or of exhausting the soil. Now all the land is grazed or ploughed all the time. The land and the grazing are limited, the people and the cattle are unlimited. Farming and animal husbandry therefore must use entirely new methods.

(ii) Science. In the old days we and our crops and animals were the sport of climate and disease. Science has changed that entirely. We need no longer die or starve. Science has also found new and better crops and new and better ways of growing the old ones, and new and better ways of breeding and keeping our animals and new and better crafts, new and better machinery for our old crafts, and new and better *sidelines* for our spare time. (See BRAINS and APATHY.)

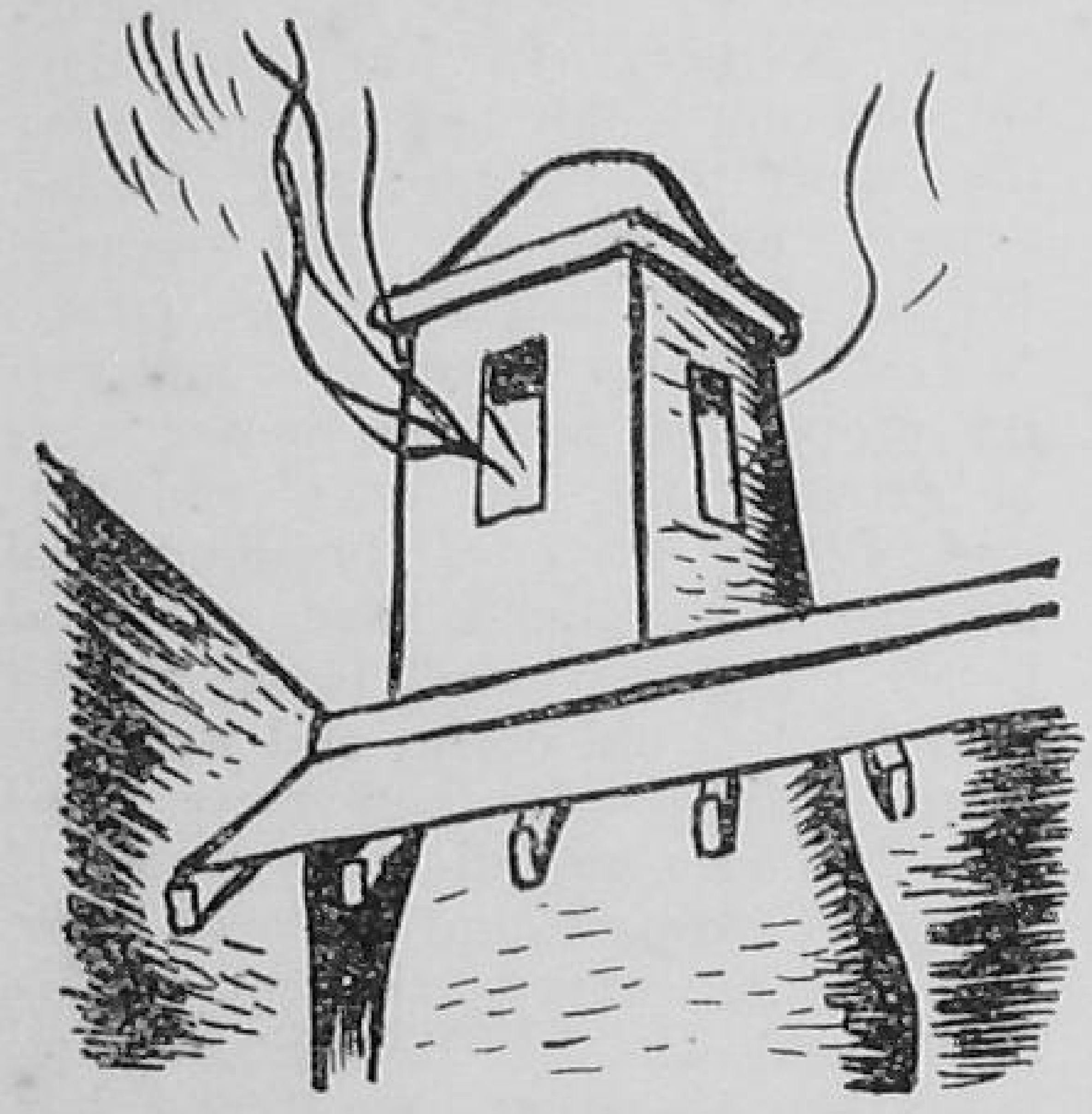
(iii) Transport and factories have also made great changes. India is now in the world market. It may be that we can buy some of the things we need cheaper and better than we can grow or make ourselves. It may pay us better to grow or make something quite different from what we used to and then sell it and buy what we used to grow or make with the money got from selling the new thing.

(iv) Our need for cash has greatly increased. We buy things now which we used to do without in the old days and we prefer to buy a lot of things nowadays which we used to be content to get made in the village.

Therefore if we want to be happy and healthy and have nice homes and

villages in this changing world we must learn all about the new things and then make use of the ones that will help us.

Chimneys. Smoke spoils walls and beams, and makes nice houses look dirty and squalid. Smoke hurts eyes. Smoke is a sign of carelessness and a low *standard of living*. Smoke is quite unnecessary and can be got rid of quite easily, if every *chula*, whether inside or outside the house, has a chimney. Unfortunately few peo-



ple have ever bothered about chimneys so you will find it difficult to get a proper design for one. You will have to experiment yourself to get a chimney and chimney-pot or cowl which will both draw smoke up and not allow the wind to blow it down again into the room. The designing and building of chimneys is a splendid chance for ex-service men to make a living and do a good job.

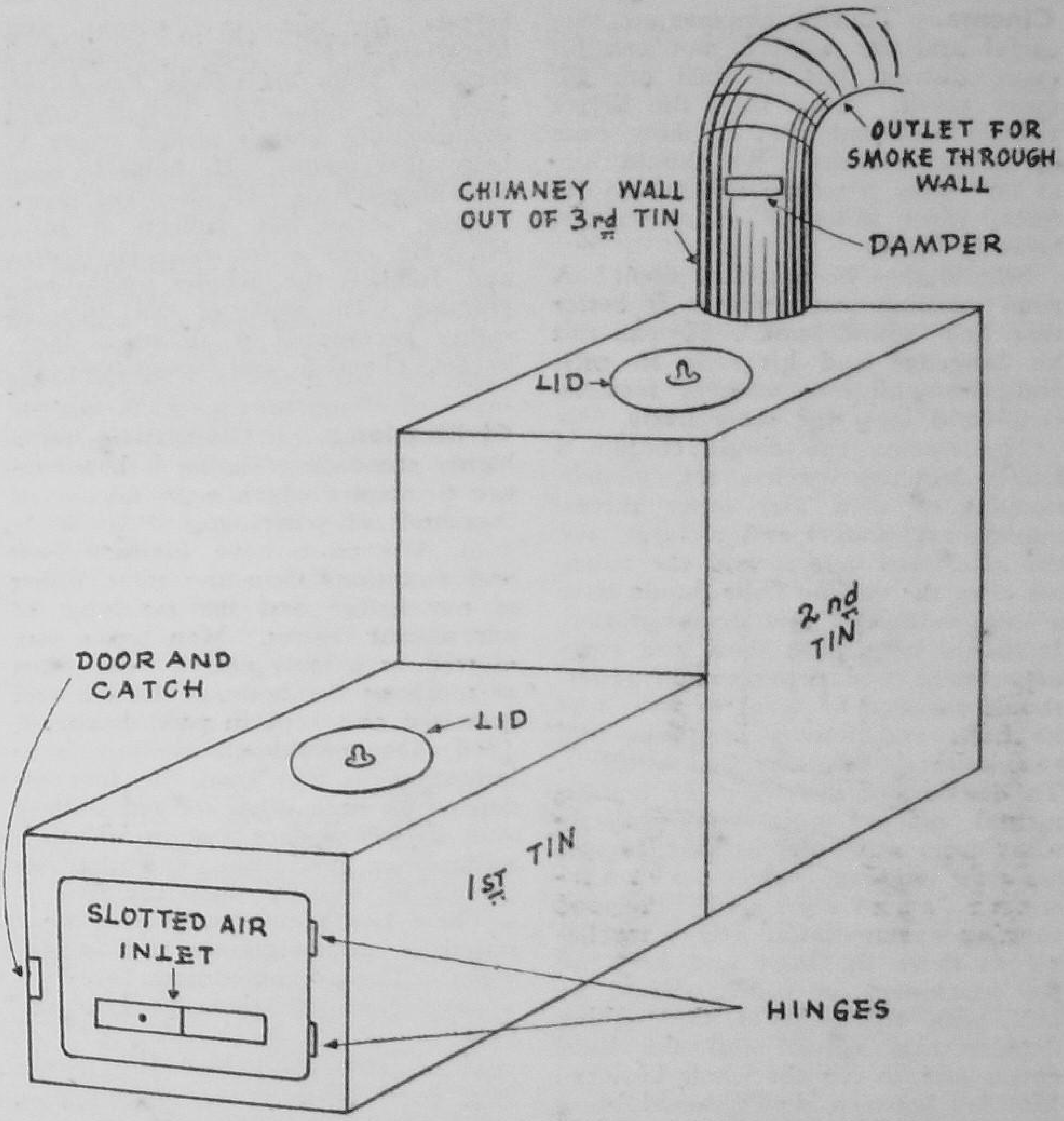
Cholera. A disease of dirty food, dirty water and dirty villages. See that the drinking water is pure. (See DRINKING WATER.) Keep the village clean. See that the *food* is clean and fresh. Do not let flies sit on it. Keep it covered with muslin or keep it in a *dooli* with muslin or gauze sides. If the village is kept clean and all rubbish thrown into properly dug pits there will be very few flies. (See CLEAN VILLAGES.)

Report to the nearest doctor or health officer and get yourself and your family and village *inoculated* when cholera comes near your village and clean all the wells with bleaching powder or permanganate of potash. All who go to fairs should be inoculated before they start and those who travel when cholera is about.

When you travel or go to fairs be sure to keep all the sanitary rules about using latrines, and drinking only the water arranged for your use, and being careful what you eat. Carelessness starts cholera and other dirt diseases and once started they may spread to thousands of people. (See CITIZENSHIP.)

***Chula* or Firegrate.** These must be specially made (i) to get as much heat as possible out of as little fuel as possible; (ii) to cook several pots at the same time; (iii) with a chimney that takes away all the smoke; (iv) two or more feet from the ground so that the housewife can cook either *standing up* as in other countries, or sitting on a chair instead of squatting on the ground where dust gets into the food, dogs lick or dirty the dishes and children can fall into the fire. As in other countries the *chula* must have a 'damper' or movable shutter in the chimney to regulate the amount of air going through the fire and up the chimney so as to avoid wasting fuel and yet to get the right amount of heat and no smoke.

See the illustration on the opposite page of a *chula* made from three kerosene tins.



CHULA MADE FROM THREE KEROSENE TINS

The first two tins are connected by clips. A large hole leaving a rim 1" wide is cut into the second tin standing upright. With a chisel holes are punched into the rim and clips, made of strips cut from the tin, are inserted into the punched holes and then fastened. The clips make a perfect joint and the flame and smoke can pass from the first tin into the second tin. The hole for the chimney on the second tin is put in the corner opposite the hole on which food or tea can be kept warm to allow maximum space for the cooking vessel.

The *chula* can either be placed on the ground or, better still, on a small brick or cement platform so that the housewife can do her cooking while sitting or standing.

Cinema. Touring cinemas are very useful and are wanted, not one for every district, but at least one for every tahsil. Even then the bigger villages will only get a show once in several months. We should aim at one show a month within, say, at most, three miles of every village, however small.

Should they be sound or silent? A good running commentator is better than any 'sound band'. He can suit his language and his style to each audience—children, women, farmers, etc.,—and keep the show lively.

The cinema van should contain a magic lantern, wireless set, models, samples of seed and other things, implements, posters and pictures, and the afternoon before, and the morning after the cinema show should have a little exhibition and demonstration. It should be a joint show and every department and departmental *expert* should arrange by turns to visit it at its halts and answer questions and encourage the workers and villagers. To do this, of course, every departmental officer must know exactly what every other department, besides his own, is doing. (See GOVERNMENT SERVANTS.) A good running commentator, and a mechanic to drive the lorry and keep all the machinery in order, should be able with the help of the visiting departmental officer and the local enthusiasts, to run the whole business. Marches between shows should be as short as possible and the tour should be advertised well in advance in the *village newspaper* and in every other way possible.

Citizenship. A good citizen keeps the law and pays his taxes promptly and co-operates with his neighbours and his Government in every possible way, e.g. the distribution of *canal water*. He refuses to give or take *bribes* or to give false evidence. He refuses to join in *factions* and *litigation*. He joins *co-operative societies*, helps his village *Panchayat*, joins and subscribes to all useful organizations and is always ready to help other people. He helps to keep his village clean. He does not throw rubbish about but collects it in a *pit*. He uses a *latrine*. He learns and follows the whole *uplift programme*. In spite of all this or rather because of it all he is busy, happy, cheerful and prosperous.

Civilization. Civilization, or a higher standard of living is based on two principles which were discovered thousands of years ago:

(i) We must have higher ideals and ambitions than the mere filling of our bellies and the satisfying of our animal desires. Man has a soul as well as a body and it needs, just as much as the body, to be fed and exercised and kept in good health.

(ii) Our neighbours' welfare is as important as our own, in fact we depend on each other for our welfare and if we neglect our neighbour's welfare we shall soon find that we cannot be well-off ourselves.

These two great truths have been stated as commandments and as proverbs. The commandments are:

(*a*) 'Thou shalt love the Lord thy God.'

(*b*) 'Thou shalt love thy neighbour as thyself.'

The proverbs are:

(1) 'Man shall not live by bread alone.'

(2) 'No man liveth unto himself,' or 'We are members one of another.'

Not only are these principles true of individual people but we are now discovering they are true of nations as well. The whole of religion is based on these two principles and so are co-operation, Boy Scouting, Girl Guiding, and uplift.

Cleanliness is the beginning of good health and happiness, and therefore the foundation of progress and a high *standard of living.* Without cleanliness, the children cannot have good *eyes* and the fields will go short of *manure.* Cleanliness brings *self-respect.* Cleanliness means *discipline* and self-control and it means working together. These things are the foundation of civilized life.

The teaching of clean, tidy and regular habits is the basis of character-training given first by the mother and then by the school-teacher to every little boy or girl. (See UPBRINGING.)

Cleanliness is a great tonic. Cleanliness makes us bright and alert in mind and body. It is the first lesson an Army recruit learns. When a patient comes to a hospital the first thing to be done is to wash him!

Cleanliness is of seven kinds:

(i) Of the mind.

(ii) Of the body, particularly of children's bodies and eyes.

(iii) Of the food.

(iv) Of the clothes.

(v) Of the house and workshop.

(vi) Of the courtyard and stable. (See PITS.)

(vii) Of the village. (See CLEAN VILLAGES.)

(viii) Of the farm. The good farmer keeps his land free of weeds.

Clean Villages. Villages will not clean themselves, nor will 'scheduled castes' clean them free of charge. As the sweepings of the village are the best *manure* possible, the farmers should compete with each other to collect it. There are no 'sweepers' in other countries, and the cleaning of the village is just as honourable a work as keeping office files. Until this is realized and acted upon in India and Pakistan, the villages will continue to be dirty; and dirty villages mean unhealthy people and poor crops—what makes disease in the village makes bumper crops in the fields.

Villagers must either clean the villages themselves or they must, through a Panchayat or Co-operative Society organize and pay for other people to do it for them. Clean villages will be impossible until the villagers will dig proper pits and throw all waste and rubbish into them instead of throwing it all on the ground inside and outside the village.

The worst sufferers from dirt are the children. They must play somewhere, and playing in the filth in and around the village, their *eyes* are damaged and they get boils and sores and skin diseases.

For village sanitation PITS are required, LATRINES, and DRAINS and properly made PONDS and general *tidying up* and MALARIA CONTROL. Villages should be kept clean every day and once a week there should be a special clean up. (See DAY OF REST.)

Closure. All *grazing,* as now practised in India and Pakistan, is overgrazing and the only way to protect pastures from *erosion* is complete closure to grazing. All livestock must be stall-fed. The effect of closure on the pasture is miraculous. Every year the grass gets better and thicker, bushes and trees begin to reappear for fuel and timber. The soil is protected by a thick mat of vegetation, and erosion begins to decrease immediately, and in a shorter or longer time, depending on the rainfall, the

kind of subsoil, etc., will cease altogether. The soil improves and with it the quality of the grass and trees improves. The rain no longer rushes off as fast as it falls but soaks into the ground thereby lengthening the growing period of grass and trees, and increasing the water in the subsoil and causing the springs to start flowing again. This in its turn increases the water in the *wells*, rivers and canals. In the plains below the floods get less and less violent and RECLAMATION can start. Closure can best be done by a *Village Co-operative Forest Society* (as in Kangra District of the East Punjab). It can also be done by gazetting the pastures under the Forest or Land Conservation Acts. But unless by proper teaching and publicity the people have been prepared for it and will loyally carry it out, no good will come of compulsory closure.

The closure of grazing is bound to cause considerable change and *dislocation*. This must be faced and dealt with.

Co-education. No country in the world is rich enough to afford two schools in every village. In India and Pakistan as elsewhere the little boys and girls therefore must go to the same village school and there must be female as well as male teachers. If the female teacher is a near relation of the male teacher so much the better.

The presence of female teachers gives the parents confidence to send their little girls as well as their boys to the village school.

Women naturally understand tiny children much better than men do, therefore if the first class, both boys and girls, is taught by women the children will make far quicker progress, and the stagnation and overcrowding of the first class so common in village schools will be cured.

The women will teach the domestic subjects to all the girls but for the ordinary subjects girls and boys will be taught together. When they reach the right age, either the girls or the boys or both will go on to special girls' and boys' middle schools. The parents know best what that age should be and it must be settled by them and the Education Authorities. A teacher who is so trusted that parents will send their little girls to his school should obviously be given special increments in pay.

For many years to come it will not be possible to get enough fully qualified female teachers for village schools. But as long as they can teach sewing and knitting and simple home crafts this will be enough and special courses must be held for TEACHERS' WIVES where they can learn these things. The actual teaching of the three R's can for the present be done by the men. It is the presence of the women in the school and their general supervision of the welfare of the girls and the tiny tots that will give the parents confidence. It will also be good for the little boys to be disciplined by women and to learn to respect them and their sisters—little boys are often rather spoilt at present.

'Combined Operations'. Raising the standard of living means the doing of an infinite number of small things by the whole population. This means complete co-operation and coordination of all departments and agencies and institutions, and the

learning and practising of the whole programme of UPLIFT by every official and non-official and their enthusiastic efforts and co-operation in and out of office hours. (See TRAINING, GOVERNMENT SERVANTS and LEADERSHIP.)

India and Pakistan have fallen too far behind and are too poor to be able to raise their standard of living by any half-measures and they are entitled to the fullest assistance from every man and woman and from every boy and girl, who claims any RIGHT or PRIVILEGE or who receives any advantage by way of education, or employment, or who receives any salary or endowment or honorarium, or who occupies any position of superiority, social, official or religious.

Commission Shop Co-operative Society. This is for marketing everything which is produced from the land or made by village craftsmen.

If they are honestly run and loyally supported by the farmers and craftsmen, Co-operative Commission Shop Societies are very useful indeed, but there is great temptation to slackness and dishonesty in the management of the shop, and the producers often sell their stuff direct when the markets are good, instead of sending it to their commission shop. The more the shop sells the better wages it can pay and the smaller the commission it need take. In fact the more business the better the shop. It is therefore very short-sighted of the members only to use the shop when markets are dull. It can only lead to bad management and in the end to the closing of the shop.

Common Good Fund. Co-operative Societies usually have such a fund. It enables them to do good work outside the special business of the society. The sanction of the supervising authorities is usually required for the spending of money from this fund and of course the society must establish itself firmly before it begins giving money away.

There are two kinds of common good:

(i) for themselves—a football, a newspaper, a radio set, or a trained *dai*.

(ii) for their district or country—contributions to the *Dehat Sudhar* Committee, the Red Cross, Girl Guides, Famine or Earthquake Relief and other national appeals.

Common Land or *Shamilat*. This is almost always wasted, as everyone's care is no one's care. Everyone says 'I may as well get as much as I can out of it', and so everyone sends as many animals as he can to graze and the common land is quickly ruined. (See GRASS, GRAZING and GRAZING FEES.) This misuse of common land is one of the greatest causes of *erosion*.

Common land is very rarely looked after by any authority or committee. It should be made compulsory, by legislation if necessary, for some committee, *panchayat*, *co-operative society* or other properly constituted authority representing the right-holders to manage the common land. (See COMMON LAND MANAGEMENT.)

If the common land is mismanaged and erosion results, the State should if necessary take it over and manage it itself. There is nothing tyrannical in this. LAND is a trust and no man and no village should be allowed to destroy it.

Common Land Management (See COMMON LAND.) All that cattle get out of a common pasture at present is exercise, but what little exercise they need can be got from

a series of small fenced paddocks of one acre each for every hundred cattle. The rest of the *shamilat* can then if water is available, be used to grow fodder crops—either by means of a *Co-operative Society* or by individual right-holders.

If water is not available and there is not enough rain for crops, then the *shamilat* should be properly looked after for the growing of grass and trees. There are several ways of doing this:

(i) VILLAGE CO-OPERATIVE FOREST SOCIETIES.

(ii) CONTOUR BUNDING.

(iii) In some districts such as Jhelum in the West Punjab, the villagers have divided it up according to the shares of the right-holders. Each owner has put a stone wall or a fence round his share, terraced and embanked what is fit to plough and carefully preserved the rest from GRAZING. The result is miraculous. What was before a waste of shining pebbles and boulders is in a few years covered with a thick mat of grass and bushes with trees beginning to spring up here and there. (See VEGETATIVE MAT.)

(iv) Where fairly level, divide the pasture into small compartments with little banks to hold up the rain water. Scatter good grass seed particularly on bare patches, and harrow occasionally. To get the very best out of the *shamilat* the GRASS must be cut and not grazed.

If ever a pasture is allowed to be grazed, it should only be grazed after the monsoon grass has fully grown and whatever is wanted for HAY and SILAGE has been cut. It should be divided into compartments by fences so that each part can be grazed in *rotation* for a few days at a time and then may have time to recover before being grazed again.

In this way the best parts are not over-worked, the grass has time to grow before it is grazed again, and much more grass is obtained than by letting the cattle roam over the whole pasture as they like. (See GRAZING FEES.)

Compost is a very carefully made *manure* which gets the best value out of the dung and every other kind of refuse. A pit two foot six inches deep is dug and only half the length of it is used. Everything is carefully spread in layers, it is kept watered and turned over every now and then. In this way it all rots very quickly and makes a wonderful plant food. If you are ready to do this extra work for the extra profit you will get, write to the Institute of Plant Industry, Indore, Madhya Bharat, or ask your Agricultural Expert to show you how to do it.

Compulsion and Persuasion. How are we to get the many things done which need doing in order to raise the STANDARD OF LIVING? All the best people in their PANCHAYATS, Local Bodies, *DEHAT SUDHAR* COMMITTEES and Provincial Assemblies want them done. Should they do it all by law and compulsion? No, it is no use making laws which no one will obey or which require an army of police and civil servants to enforce. This is not the way of progress. The doing of a new thing—say vaccination or the use of good seed—must be explained and demonstrated by every means of PUBLICITY and EDUCATION. Progressive people must be persuaded to try it. One here and there will start and the rest will laugh at them. In time the pioneers will benefit by the new thing and people will notice it, and others will begin to do it too, or at least to ask about it. Finally everyone will say, 'Of course it's right, but we are too lazy to

do it on our own. Why don't they give us an order to do it?' Then make the law and it will be obeyed, and the few who do not obey it can be forced to do so.

Once the law is passed the village Panchayat must enforce it. (See PUBLIC OPINION.) But not even the Panchayat can enforce a law in which it does not itself believe. It will merely find excuses for not punishing those who do not obey and the law will be a dead letter.

In order to get some new thing done we must first make sure that every man, woman and child knows what we want and what are the arguments for and against it. If it is a good thing common sense will win in the end and people will start trying it. Every department, official and leader must practise it in their own homes and farms and departments. Then the Panchayat and CO-OPERATIVE SOCIETIES must take it up. In this way the new thing spreads until finally it can be made the law of the land, and the stupid and obstinate people still left can be brought into line.

There are some things of course which must be done in a hurry such as plague inoculation, and at certain times, such as in war-time, everything has to be done in a hurry. But if we are at all times on our toes, working keenly for the welfare of the people, and have fully developed the machinery of PUBLICITY and persuasion we shall have little difficulty in getting things done in a hurry.

Compulsory Education. In some parts of India compulsion is applied to boys only. This is a lunatic arrangement. 'Men Only' will never raise the standard of living. Uplift is a joint enterprise in which the women's share is even bigger than the men's, as they are in charge of the home, which is the real centre of national uplift.

By educating men only, we make society lop-sided. It is better that both partners to the home should be uneducated than that the man should be educated and his wife uneducated. How can a B.A. live happily with a wife who was only taught as a child to make dung-cakes? They will hardly speak the same language.

For every boy sent to school a girl must go too. In fact compulsion need only be used to get the girls to school. Their brothers will follow quick enough! This was done in some of the former Indian States I believe with complete success.

Conditions of Progress.

(i) Knowledge, enthusiasm and hard work.

(ii) Co-operation and leadership.

(iii) Education and training of women to make them equal partners in the work of *raising the standard of living.*

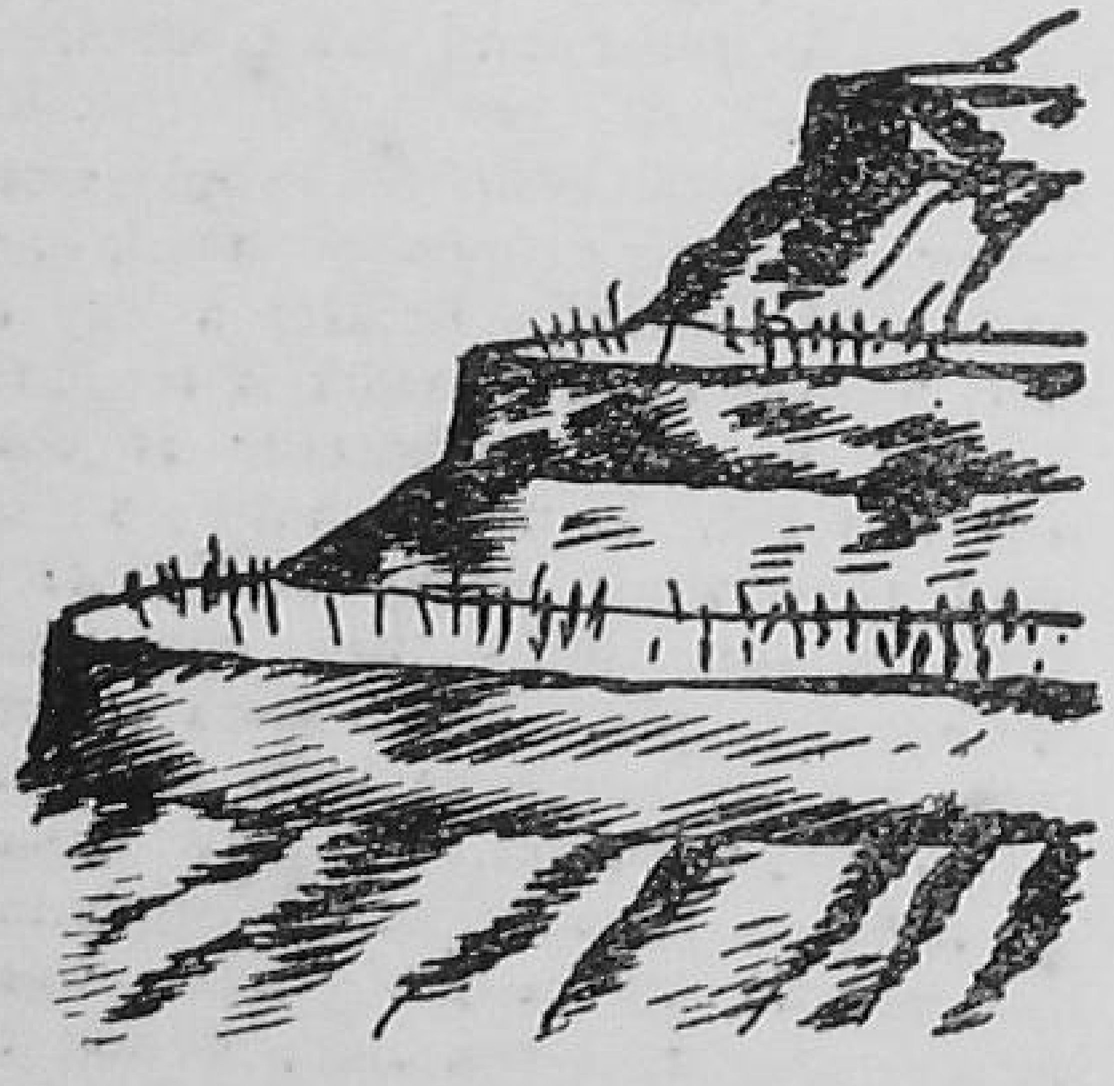
(iv) Savings.

(v) Discipline and self-control.

Conditions of Work. People work better if their times of work are fixed and limited. Besides a *day of rest*, a daily limit of work is required—eight hours or whatever is considered right. If people have no time limit they work slowly and slackly. With a time limit they can work hard and keenly. When work is over they can go home to help to make their homes bright, to play games or to grow flowers and vegetables. Piece-work also makes people work keenly—if they have an ambition to raise their standard of living—but even then there must be a time limit and the rates of piece-work must be high enough to enable the good worker to earn a good living wage without working unreasonably long hours.

There must also be a minimum wage for all workers whether Government clerks or *chaprasis*, contractor's labourers, village menials or anyone else. And that wage must be enough to live, marry and bring up a family without bribery, theft or any other dishonesty. People who do not pay a living wage do not deserve loyal honest work, and they depress the standard of living and thereby keep the country poor and backward. I have been told that low-paid Government clerks have to keep their families locked up in purdah because they cannot afford reasonably good clothes for them to wear when they go out! School teachers are miserably paid considering that the whole future of the country is in their hands.

Conservation of Soil. All cultivated land must be protected from erosion by *embanking* and, where necessary, by *terracing* and field *drains*. All



pastures must be protected by *closure to grazing*.

The effect of conservation is that the *soil* gets better year by year, as the *top soil* is no longer washed away by the rain. The rain soaks in where it falls, less rain is needed to ripen the crops or to grow the grass, and more water reaches the subsoil to increase the supply in the wells, or to flow slowly out to the rivers. The supply of water in the rivers during the dry season is thus increased, so that there is more water for the canals during the period when the rivers are at their lowest between the rainy periods. Conservation levels out the water supply; it reduces the peaks of the floods and raises the troughs of the droughts. (See SAVINGS, which do the same for our money.)

It is a great mistake to suppose that the stopping of grazing will make the people poorer, although it will certainly mean considerable dislocation and inconvenience at first. Erosion means increasing poverty and the stopping of erosion means increasing wealth. A well-kept hill-side will in time support vastly more people than a bare wilderness. It will produce soil, water, timber, fuel, grass, fruit and will support bees, silk worms and other sidelines. Many villagers in Hoshiarpur District of the East Punjab feed all their cattle and pay all their land revenue from the grass cut on their closed pastures.

Conservation may require legislation. If people will not do it by themselves, then Government must do it by law, as erosion destroys the wealth of the country not only for us but for our descendants as well.

Conservatism. The virtue, and the vice of farmers, craftsmen and villagers. We are rightly suspicious of outsiders, townsmen and officials, until we are convinced that they have come in sincerity and humility to help us to solve our problems. We are rightly reluctant to change the old ways until we are convinced that the new ones are better and will not let us down.

But if we refuse ever to look at, to understand, or to try new ways how will we ever make any improvement? What has God given us a brain for if it is not to think and to learn and to inquire and to make experiments, in order to see if better ways cannot be discovered of living and working?

Therefore we must not only be always ready to learn and to try new things, we must go and look for them, we must visit farms, and exhibitions and workshops, we must go as far as we would to a *mela* or a wedding or a law court. We must go on foot or on bicycle, or horseback or camel-back, in lorry or train to seek out knowledge, and we must read posters, pamphlets, books, newspapers and journals and listen to the radio. We must worry the *experts* to tell us all they know, and when they visit our villages we must not waste their time but all be ready with our questions and our troubles. (See APATHY and CHANGE.)

Consolidation of Holdings. Holdings get broken up generation after generation, by inheritance and succession until a farmer has a large number of scattered fields, many of them so small that he cannot cultivate them at all, and many quarrels are liable to arise with his innumerable neighbours.

The remedy is consolidation of holdings, best done by a Co-operative *Consolidation Society*. It may take a long time for all the right-holders in the land of a village to agree to consolidate, but it is worth waiting for unanimous agreement. In case however there are one or more who obstinately hold out, laws have been passed to enable the rest to compel a small minority to join in.

As soon as the right-holders in the land have agreed to consolidate their land they make a Co-operative Society, and all the members make over their land to it. The society, that is, all the right-holders assembled in general meeting, elects a managing committee which classifies all the land and makes a new plan of distribution. When this has been approved by the general meeting each right-holder receives in a single block, (or if that is not possible in as few blocks as possible) a piece of land equal in size and quality to his previous holding. When, all have agreed, possession changes hands and the necessary alterations are made in the village records. Each stage has to be approved by the general meeting of the society.

Once a man's fields are all together in one place he can farm properly, look after his land, fence it if necessary and perhaps dig a well. He can bring his canal or well-water to his fields in one channel instead of many, and so save a lot of precious water, which he can use to sow more land or to give him better crops. Consolidation brings progress, peace and prosperity. When each man's land is in a compact block, the crop inspections will be easier, disputes and encroachments will be fewer, partition will be easier, the farmer will know how much seed he needs, and he will be able to calculate what water rate and land revenue he must pay. Roads will be straight, of the proper width, and will reach every holding and the women will know where to bring the midday meal. The fields can be fenced and the children will be able to go to school instead of minding cattle. In time the farmers will begin to live on their farms and the villages will be less crowded and there will be few cattle in them. The rewards of successful consolidation are unbelievably great and there are no happier farmers than those who have done it.

To see how the work is paid for,

look at COSTS OF CONSOLIDATION for the latest method (see CONSOLIDATION, NEW METHOD) and for what further work the society can do. (See CONSOLIDATION, SOCIETY.)

To ensure that consolidation is done well and quickly Government should have a special Consolidation Department manned by experts taken from the Revenue and the Co-operative departments.

Consolidation, New Method. Co-operative Consolidation Societies used to distribute the new land both according to the quality as well as the quantity of the old holdings, e.g. if a man previously owned six acres of sandy land and six acres of loam, he would get exactly the same again, six acres of each, and would probably get it in two separate plots. The very latest method is to value each kind of land in terms of the other kinds and give each owner only one block of land, e.g. it might be agreed that one acre of loam was equal to one and a half acres of sand, and our friend with six acres of each would then get either fifteen acres of sand or nine acres of loam all in one place. After all, the important things are water and manure and hard work; if we have these we can soon improve our land, once it is all in one place. A man of enterprise, with a bit of capital or perhaps several sons would probably gain by taking the sandy area. Another man who grew vegetables might prefer the smaller acre of loam.

Besides grading the various kinds of land in such a way that the new holdings shall be in one block each, the latest method of consolidation deals also with occupancy tenants. In general the occupancy tenant becomes full owner of three-quarters of his tenancy and the landlord takes the other quarter free of any encumbrance.

Consolidation, Society. This can help greatly in TIDYING UP THE VILLAGE. At the time of CONSOLIDATION land is reserved for common purposes, (recreation, burial, etc.,) and for the expansion of the village; unwanted ponds are filled in and all the roads are straightened.

Having succeeded in the apparently impossible task of surrendering the little plots of land they have lived and died for for generations, and having accepted a complete redistribution of the land, it would be a great pity to allow the enthusiasm for progress, and the spirit of harmony and co-operation to die away. When therefore it has finished its job in the fields the society should invite the shopkeepers, artisans and village servants to join it and turn itself into a village Improvement or BETTER LIVING SOCIETY.

Continuity and permanence are very hard to secure. Someone from inside or outside the village starts a good work and everyone takes it up keenly. He goes away, or dies or is too busy to carry it on or can only visit the village at long intervals, and the work dies away.

In the case of an official who is transferred his successor may perhaps refuse to have anything to do with his predecessor's scheme. He wants to start one of his own and get the credit for it himself! In the case of villagers the work may be stopped by faction and party spirit.

What is the remedy? Four things must be done:

(i) All those engaged in a good work must form themselves into a co-operative society, or get a panchayat appointed to make sure that the work is carried on and never dies out.

(ii) Government on its side must insist that once a good work is started it shall become part of the permanent plan for the district and shall be kept going, regardless of the movement of particular officers and regardless of the fact that the officer who founded it and whose name is connected with it is no longer there to keep it going.

(iii) Uplift must be properly planned and organized. (See ORGANIZATION.)

(iv) All workers must be trained. (See TRAINING.)

Contour Bunds are used to stop unlevel land, both cultivated and pasture, from eroding. They are built in cultivated land when the soil is too shallow for terracing. (See EMBANKING.) In Bombay Presidency they are built over very large areas. The bunds are eight feet wide at the base and three feet high and are spaced at every four and a half feet drop in level or not more than three hundred feet apart. They catch all the rain water and any soil that the rain water washes down from the top of the field, so that the crops get much more moisture and the fields gradually become more level.

Contour bunds are also dug along the contours of hills, after they have been closed to grazing. They hold up the run-off of rain water and hasten the growth of grass, bushes and trees. The bund is made of the earth got by digging a shallow trench on the up hill-side. Trees and grass are planted at the foot of the up hill-side of the bund.

An even better method than a long contour bund is a series of short contour trenches (that is running along the hill-side and not up and down the hill) wherever there is enough soil for trees, grass and bushes to grow. They are only a few feet long and can be as near as you like to each other, one above the other, or along the hill-side. The earth from each trench is made into a small bund on the down hill-side of the trench.

Conviction. The first step in raising our *standard of living* is the conviction that a better life, a healthier and happier life, a fuller life is not only possible, but is definitely more to be desired than the present life with its debt, poverty, dirt, disease, malnutrition and suffering—particularly for the women and children—with occasional bursts of good living, extravagance and excitement. We must be convinced that though the road is hard and steep and progress may be slow and there may be set-backs, yet, if we persevere, life will certainly become steadily better and better, and more worth living. Who will throw off *apathy*, who will work and save and scrape, who will give up his besetting sins of faction, litigation, expensive weddings and gold and silver ornaments unless he is quite sure that by doing so he will gain something far better?

To inspire this conviction is the principal PROBLEM of rural India and Pakistan. It will come from knowledge, and knowledge will come from *education* and *publicity*. It will come quickest by bringing this knowledge to the *women* as *uplift* is really a better homes movement and it is the women who are in charge of the homes.

When this conviction comes apathy will disappear and the great work of raising the standard of living will begin.

Co-operation. The ideal method of binding people together to improve village life, farming, crafts and industries, home, health, marketing, finance and everything else.

Co-operation gives the poor the resources of the rich and gives each man the strength of many. Co-operation is not for the selfish, greedy or dishonest. It begins in the heart with a burning desire to rise in the scale of human existence, and with a readiness both to help one's self and to help others. Co-operators must be hard-working, thrifty and honest, ready to plan and to work with others, for others, and to abide loyally by rules which they have helped to frame and promised to keep.

There is no need which cannot be satisfied by a Co-operative Society, if the need is genuinely felt and if those who feel it are ready to join together and plan and work together to meet it.

Co-operation was invented by poor and debt-ridden people to enable them to rise to prosperity and independence. They succeeded, and so can every one else who genuinely follows the true principles of co-operation. Co-operative Societies sometimes fail but it is not the principles of co-operation that are wrong but the members who have been selfish, greedy or have quarrelled amongst themselves. To be successful a *Co-operative Society* must be in the TOP-CLASS. What is worth doing at all, is better worth doing 'co-operatively'.

Co-operative Society is formed by a dozen or more people, usually belonging to one village, but for some things such as a medical aid society several villages may join together.

A society has three main principles:

(i) The members must have honesty and good will towards each other.

(ii) They must have a keenly felt need which they are determined to satisfy.

(iii) They must be ready to sink their differences, work together, and discipline themselves and each other.

Before a society is formed the *expert* from the Co-operative Department will visit the village several times and explain the principles of co-operation, how a society is formed and how it works. When enough people are ready to abide by these principles and work loyally together, the expert will help them to make up their by-laws and form the society. Each member will sign his name or put his thumb-mark on the papers, pledging himself to abide by the rules and the decisions of the society. These rules are to enable the members to elect a committee, to fix the various payments that members must make and generally to work the machinery of the society, and to do the particular job for which it was formed. The committee runs the day-to-day work but everything important is decided by the members in their general meeting.

There is a certain amount of *discipline* in a co-operative society to which each individual must submit, but it is imposed and enforced not by outsiders but by the general meeting of the society. The experts will continue to help and to supervise until the society has made such progress that it needs no more help, except the auditing of its accounts and an occasional visit to encourage the members and to make suggestions. Men or women or both can join Co-operative Societies, depending on the object for which the society is formed. There are several grades of society according to the zeal and efficiency with which the members work, but the top-class is the one to aim for.

Co-operative Societies for the following, and many more, subjects are mentioned under the headings of the subjects themselves: Allotments,

Arbitration, Better Farming, Better Living, Cattle Breeding, Commission Shops, Consolidation of Holdings, Credit and Thrift, Ex-service Men, Health and Medical Aid, Industries, Marketing, Milk Collecting, Milk Recording, Veterinary First Aid, Women's Institutes.

Co-operative Training. Successful *co-operation* depends on the practical application of certain principles and unless these principles are carefully taught both to the co-operative staff and to the office bearers and committee men of the societies, co-operation must fail. Many societies have already failed and keep on failing from ignorance or neglect of the principles of co-operation and money and effort must be freely spent on teaching these principles.

Those who wish to get the benefits of co-operation must not grudge the time and trouble it costs to learn exactly what co-operation consists of and how to work a society. Those who are engaged in social work, even if they are not actually helping to form or to run *co-operative societies* must learn the principles of co-operation, so that they may know a good society from a bad one, and may be able to give good advice to members of societies and to those who are thinking of forming or joining a society. SERVING SOLDIERS, sailors and airmen should be taught the principles and practice of co-operation as part of their pre-release or civic training.

Cost of Consolidation. This is paid partly by Government, and partly by the right-holders, who pay a small acreage rate in advance. It is very wise to insist on this payment in advance as it makes everyone keen; no one wants to lose his money by letting the business fail and so they work together to make it a success. It would be still better if consolidation could be paid for entirely by the people who consolidate, so that it might be quite independent of Government finance. The speed of consolidation would not then depend on the vagaries of Government budgets and Assemblies—a 'stringency' one year and very little money the next! It would depend entirely on the keenness of the people themselves.

The actual cost is very small when divided over all the holdings. Who would mind paying several rupees an acre, spread over several years, in order to get all his land in one place? Why, he would win it back in one harvest from the better crops he would get by being able to farm properly!

The way to enable those who consolidate their land to pay the whole cost would be to continue the advance payment as now, and recover the balance of the cost after consolidation has been completed. A cess of so many annas per acre would be levied, for so many years, and collected with the land revenue. Both the rate per acre and the number of years would be settled by the Consolidation Society itself.

Cotton must be sown in lines so that it can be weeded, and the CRUST of the ground broken, by bullocks and harrows. Only one variety of cotton should be grown in each field. Having selected your variety and sown your seed, weed out every other variety of cotton that

comes up in your field. In this way your cotton will be pure, your seed for next year will be pure and you will get whatever premium there is for pure cotton of the variety you have chosen to sow.

Cotton Seed is particularly hard to keep pure, because it has to be ginned before the seed can be got and stored. In ginning factories also it is very hard to keep the seed of each variety separate, and absolutely pure. Having once got good seed farmers should gin enough of their own cotton every year to get seed, until it is time to renew their seed again from outside.

Covering Fees. Good things are worth paying for. (See FREE ISSUES.) If we insist on getting them free there will never be enough for all. If we pay for them the supplying of them will become profitable industries. Fees should therefore be charged and paid for the use of bulls and stallions, even by members of co-operative societies. Higher fees would of course be paid by non-members.

Cow-dung. Intended by Providence to be the food of the crops, but most of it is made into dung-cakes and burnt to keep milk and other things hot. For keeping things hot cow-dung must be replaced by the HAYBOX, or *BHOOSA* BOX, as good crops cannot be grown without manure, and the burning of cow-dung is one of the main reasons why the *yields* of crops are so low in India and Pakistan. Every bit of cow-dung and urine must be collected in PITS and when rotted taken to the fields. Better still the cattle should, wherever possible, be tied up in the fields themselves so that none of their dung and urine will be lost.

Craftsmanship. The glory of good work well done. Such phrases as 'anything done', 'never mind, no one will see it', should not be heard in the land. All work should be done with pride in the doing of it, that is to say, it should be done to 'glory of God'. Every man should work in such a way that he may be proud of his handiwork afterwards and his fellow-villagers and fellow-workmen should treat a bad workman with such contempt that he will be ashamed to do bad work again. It is our duty to God, our country, and ourselves to put our heart into our work and to do it with our whole skill and strength and to use the best tools that we can possibly get.

The Taj Mahal and the other glories of India's past were built by craftsmen who put their whole heart into their work. We must do the same so that even our descendants will be proud of what we did.

Credit. (See RUNNING ACCOUNT.) People think that because they have credit they should borrow upon it and some people think that a man who is not in debt must have something the matter with him! 'What, have you no credit at all?'

Credit is very useful if it is used only when necessary for productive things, that is, things which will produce income, and pay for themselves, such as good cattle, machinery and fruit trees.

A man's best credit is his honesty

and his hard work and his thrift. A moneylender should never lend to a man who is idle, dishonest, or has no Savings Bank account. The wisest men join Co-operative Societies, keep their savings in them and when necessary borrow from them. (See MONEY and INTEREST.)

Credit and Thrift Co-operative Societies. Very important in a debt-ridden countryside but very risky. Credit is usually abused. Money is freely borrowed for unproductive purposes and cannot be repaid. Credit is like alcohol. Many people cannot take it in moderation! Credit is not the best form of Co-operative Society to start on. Better Living Societies and Savings and Thrift Societies should come first. When the members have learnt to work together, have acquired habits of discipline and thrift, have developed a strong ambition to raise their standard of living and are ready for self-denial, then they are ready for a credit society. (See CREDIT, BORROWING MONEY.)

Crime. Crime, quarrelling and faction are very largely a matter of the surroundings we live in and are not cured merely by increasing the number of police, magistrates and prisons. Work and play will stop crime. Happy, healthy homes and busy people, mean quiet, peaceful, contented villages and very little crime. Clean and well organized villages with games, recreation and work for everyone seldom have much crime in them. If people are busy and hard-working they will not quarrel; they are too busy minding their own business to interfere with other people's. Co-operative societies help to stop people quarrelling as they teach them to work together and to help each other instead of trying to do each other down. Where people work hard and work in co-operation with each other they are bound to have a higher standard of living and to be better off economically. This will eliminate the crime due to poverty, debt, dirt, squalor, disease and discomfort. Consolidation of holdings removes one cause of quarrelling.

No one will willingly leave a comfortable, healthy, happy home to join in crime and no one who has such a home will willingly spend his spare money on litigation instead of on making his home better. The housewife is responsible for the home and therefore her training is of the greatest importance in reducing crime.

The early upbringing of the children is also of the greatest importance for the reduction of crime. Carefully brought-up children make good citizens, not criminals, and therefore the mothers, who alone are responsible for the early training of children must be trained themselves when young, so that when they grow up they may be able to bring up their own children as self-respecting, self-controlled, God-fearing citizens and not as undisciplined little savages ready for any vice or crime, and ready to give or take bribes or to give false evidence or run false cases. (See FACTION and ARBITRATION.)

Crust. After rain or irrigation a crust forms on the top of the ground and if it is left the moisture will very quickly dry out of the land.

This crust must be broken by hoeing or harrowing. Even if there are no crops in the field the crust must be broken either by ploughing or harrowing so that the moisture shall remain in the ground for when you want to sow.

Custom and Tradition. The guide of those who have no other means of learning new and better ways.

Custom is the accumulated wisdom of the ages but takes no account of all the wonderful discoveries of science, nor does it allow for the completely changed conditions in which we live today. (See CHANGE.) Custom therefore has ceased to be a reliable guide. Some customs are still excellent and we must cling to them at all costs—such customs I mean as respect for our parents, and loyalty and obedience to law—but many customs, whatever value they may have had in the old days, are now merely adding to our poverty, ill-health and discomfort. Every custom must be tested, the good ones kept and the bad ones replaced by better ones based on the best knowledge we can get.

In all countries it is the *women* who are the guardians of custom and tradition. If therefore we wish to revise our customs and traditions we must bring knowledge to the women so that they may help instead of hindering us in building up new customs and traditions based on modern science and discovery, that will secure our health, wealth and well-being.

Cyano-gas. A wonderful means of killing rats, mice, snakes, fleas, lice and all manner of creatures that do us harm or carry disease. Cyano-gas is fairly harmless in the open air but inside a building it is a very deadly poison. Without the instructions and help of the expert therefore cyano-gas must never be used.

Dai. (See MIDWIFE.)

Dairy. There are four things to be carefully noted: (i) a milking cow or goat is a milk factory, and her 'raw material' is fodder. Just as raw material is brought to an ordinary factory so it must be brought to a milk factory. Milkers must not be allowed to waste their strength wandering about looking for their food. That is to say cows and goats must be stall-fed. (ii) A milking cow—or goat—wants two rations of food: (*a*) a body ration to keep her body in good condition; (*b*) a milk ration—so much for each pound of milk she gives. If therefore you have ten cows giving two pounds each, they will eat ten body rations and milk rations for twenty pounds of milk. If you have one cow giving twenty pounds, she too will eat the milk rations for twenty pounds of milk, but she will only eat one body ration. That means that by keeping one twenty-pound cow instead of ten two-pound cows you will save nine body rations which will go a long way towards keeping another twenty-pound cow! It pays therefore to keep a few good milking cows instead of many poor ones. (iii) The milking capacity of a cow is passed on particularly through her sons—her bull calves—who when they grow up pass it on to their heifer calves. When selecting bulls for our dairy herd, therefore, we must look for bulls whose mothers and grandmothers were good milkers. If the bull we want has grown-up heifer calves we must find out how much milk they are giving. (iv) You can only breed from the best cows and select the best bulls for your dairy herd if you join a *Milk Recording Co-operative Society* and record your milk.

Dams. (See BUNDS.)

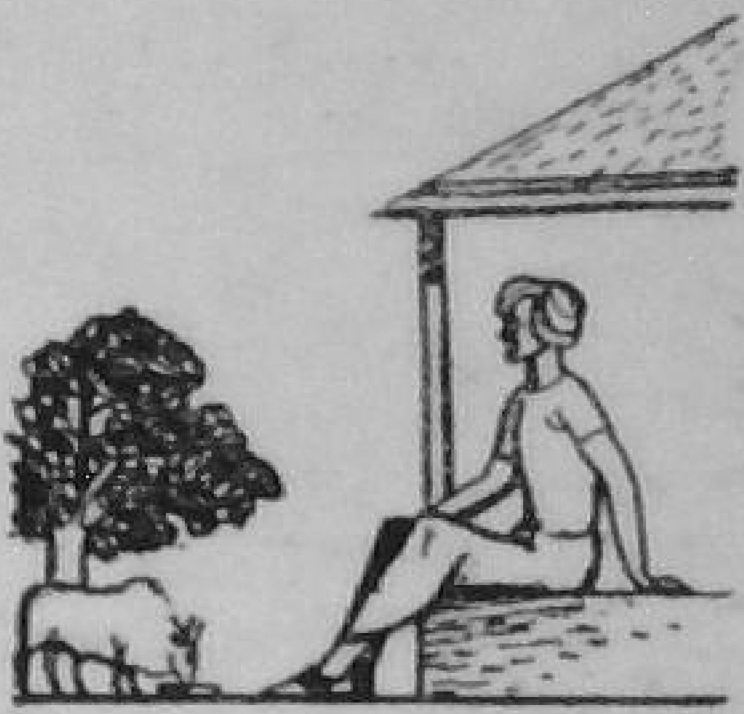
Dates. Dates are a very nutritious food and are very popular. Every family in the world would gladly eat them if they could get them at a reasonable price and of good quality and properly packed. Date trees like to have their feet in the water and their heads in the sky and the places where good dates will grow are fairly

limited in India. They do not like the monsoon and they often grow best in places where other things do not grow so well, and consequently the people are poor. Date growing should therefore be encouraged and developed to the maximum possible.

The date, however, besides being a slow growing tree can only be multiplied by means of suckers, and each tree only gives a few suckers in its whole lifetime, so that careful co-operation is required to extend the industry. The best trees must come from abroad, at any rate for the present, and Government must therefore be continually importing them. Careful co-operation is also required for the selling of the fruit. To command a good *market* and good prices, dates must be of good quality, clean, graded and neatly and attractively packed. Marketing, advertisement and transport arrangements must be good, uniformity must be guaranteed, and the whole service must be prompt and reliable. Both for growing therefore and for marketing dates, *co-operative societies* should be organized. All this applies to all marketing of course but is particularly the case with dates, as given first-class produce and marketing, the Indian date-grower could sell in many countries besides his own.

Daughters are often regarded as a misfortune. This is quite wrong as it is the *women* who are responsible for the *home* and the *upbringing* of the children and therefore for the *happiness* and progress of the nation. Daughters are therefore a blessing and must be brought up with as much care and given as good an *education* as sons.

Day of Rest. People work better when they can look forward to a holiday, and cattle work better if they have regular days of rest. Those nations who in the old days fixed a weekly day of rest became the most successful in the world. The villagers should have a weekly day of rest for man and beast. Even bullocks will work better and live longer for a day of rest. The evening before, or first thing in the morning of the day of rest the village and everyone's homes and courtyards will have a thorough clean-up. The day will start with washing and bathing and go on to clean clothes, games, recreation and perhaps public worship, and meetings of the panchayat and other societies. More work and better work is done in six days than in seven, and the proclaiming of a holiday on the seventh may start regular village sanitation and regular village games and institutions.



D. D. T. A new and wonderful powder which kills mosquitoes, flies, lice, fleas and white ants. It is harmless to human beings but it may kill or damage a lot of other things such as crops, vegetables and fishes. It may also kill bees and other insects that are extremely useful to man. It is an excellent thing and quite safe to use inside your houses but befere using it in gardens or fields therefore consult the *experts* and be careful to do as they tell you about it.

Gammexane is another powder of the same kind, and can be used in the same way.

***Dehat Sudhar* Committee or Rural Community Council.** There should be one in every district with branches

in tahsils or taluks to plan, stimulate and organize the uplift of the district. This committee consists of:

(i) Paying members. Everyone who is keen enough on progress to pay a small annual subscription.

(ii) Ex-officio members who are the representatives of all the various departments of Government and Local Bodies working in the district.

(iii) Delegates from affiliated organizations of all kinds, official and unofficial, Red Cross, Boy Scouts, Girl Guides, Soldiers Boards, Missionaries and others.

(iv) Delegates from village societies of all kinds, Co-operative Societies, Women's Institutes, Panchayats, etc., paying a small affiliation fee.

This committee represents every organization and individual working for the improvement of village life and is a real uplift Parliament. Both the branches and the general council meet regularly. They collect members and funds. They have a policy, a budget and a programme of work. Meeting by meeting they discuss the work that is going on and make plans for further work. It is they who draw up the uplift programme item by item. It is they who decide where, when and the best way, to start the campaign for each item in turn, whether it is ventilators or girls' education. They run a village weekly picture paper and all other kinds of publicity, such as touring cinemas and dramas, shows, competitions and meetings.

As soon as there is a big paying membership the council commands respect. It raises and spends money. It knows the villages and how to get the people to take to the new things. It understands the difficulties and problems and with the help of the experts it solves them.

The subscription includes the subscription to the village newspaper and it may include subscriptions to other societies as well. (See MULTIPLICITY OF SOCIETIES.)

The *Dehat Sudhar* Committee has sub-committees for each kind of work, publicity, women's welfare, health, etc., which meet before the general council and send their resolution to the general council for any further discussion needed and for final decisions.

This committee is of immense value to Government and all its departments. Through it they learn exactly what is wrong and what is wanted to put it right, and through it they get the active help of the best of the people. The *Dehat Sudhar* Committee might be the controlling authority of the VILLAGE GUIDES.

A provincial federation of these *Dehat Sudhar* Committees meeting say quarterly would act as a clearing house of all kinds of information for the District Committees, for the discussion of common problems and would help the Provincial Development Board in its work of planning, and of distributing any money available for the stimulation of district work.

Development. Some people have land, others have capital, others have special skill. We may be comfortably off and under no necessity to do any more work or to make any further use of our land, capital and skill. It is nevertheless our duty to our country and our neighbours to make the best use possible of whatever special advantages we have, in order that the wealth of our country may increase and others may share in the increased employment and prosperity that we produce. Even Government will get a share of the increase in taxation, from which it will be able to build more roads and schools. If we have land we must sink wells, plant orchards, make terraces and banks or develop it in

whatever other way is possible. (See DEVELOPMENT OF LAND.) If we have capital we must use it to make workshops or put it to other good use or invest it where it will be used to develop our country. If we have skill we must not sit idle but use it for our own and our country's benefit.

Our country is poor and her standard of living is low. The reason for this is that she is under-developed and it is our DUTY to do all in our power to develop and help her to *raise* it in making the best use possible of all her resources of land, capital, skill and labour.

Development of Land. It is the duty of owners of *land* to make the best use of it, whether for crops, vegetables, fruits, grass or trees. If there is sweet water available it must be used, whether it is by digging a well, damming a stream, building a bund, or digging a channel from the nearest *jheel* or other water.

If cultivated land, or land fit for cultivation, is unlevel it must be *levelled, terraced* and *embanked* and *drains* must be dug to get rid of surplus water.

The best crops possible for each kind of land must always be grown. Pasture-land must be closed to grazing and the grass cut and turned into silage while growing, or cut and turned into hay after growing.

The most valuable trees possible must be grown whether for timber, fuel, fruit or fodder. Erosion must never be allowed.

All holdings of cultivated land should be consolidated and if possible fenced, preferably with quick fences.

Diet. The body requires three kinds of food:

(i) To produce energy for work. For this we eat:

(a) the cereals, wheat, rice, millet, etc.

(b) fats, oils, ghee, etc.

(c) starchy foods such as potatoes, turnips and sugar.

(ii) To build the body and keep it in repair. For this we eat meat, fish, poultry, eggs, milk and pulses. Pulses, dal, peas, groundnuts, etc., are the most important for those who do not eat, or cannot afford, the others. Leafy vegetables and fruit come in here too.

(iii) To protect us from disease. (See PROTECTIVE FOODS.)

Digging Earth. Thanks to uncontrolled digging of earth all round the village for building and repairs, villages are surrounded by a depression connecting a chain of ponds of varying depth. The outskirts of many of our older villages have been utterly ruined by it and new villages are rapidly developing these horrible swamps—nowhere for the cattle to stand, the children to play or the village to expand.

The cure for this evil is perhaps the biggest of all village problems. There are however two things to be done at once. (i) Reduce the need for digging by the use of *cement plaster* which lengthens the life of mud walls and roots. (ii) Digging must be controlled by the *panchayat* or the *Better Living Co-operative Society* or the *Consolidation Society*. There are three ways of doing this (a) select digging places and mark them with white pillars at the corners and forbid all digging outside the posts. People may dig as deep as they like there and nowhere else. (b) *The twin pond* system. (iii) Compel people to bring in all the earth they want from their fields or from any mounds or high ground there may be near the village. In years to come perhaps Dreamville lines and wagons will be used for building

and for filling up the depressions made by previous digging.

Dignity of Labour. There is nothing menial about *craftsmanship* or about cleaning a village or a house or about any other manual work. In no other country in the world but India is sanitary work the monopoly of a particular tribe or caste and the sooner India follows the rest of the world in this matter and regards all good work as honourable the sooner will India be clean and sweet, and the farming and village crafts prosperous.

No housewife considers it derogatory to her dignity to keep her house clean and no man should hesitate to keep his compound, streets and village clean. Nor should he scruple to learn and practise work in leather, wood, iron or any other material. All work well done is dignified however humble it may be; the only disgrace is dirt, laziness, idleness, slovenliness and bad work. A field of weeds is a disgrace and so are crooked plough-furrows, badly made shoes or boxes or a dirty village.

The idea that there is something derogatory or undignified in crafts and manual work has a very bad effect on us. It makes us idle, helpless, clumsy with our hands, unable to look after ourselves, and absurdly dependent on other people for the simplest things. It also makes us prefer the humblest clerical work to the noblest creative work in wood, iron and other materials. It is said that Rome was ruined by learning to depend on slaves for all their work.

Dirt. The cause of three-quarters of our diseases, particularly of the eyes, the skin, and the stomach and guts. And yet dirt should be the foundation of bumper crops. Dirt in the right place, collected in *pits* is wealth (see MANURE), and dirt in the wrong place, scattered about the village means disease and poor crops. The answer to dirt is *cleanliness*, clean *drinking water*, clean *food*, clean *eyes*, clean bodies, clean clothes, clean children, clean houses, *clean villages*.

Some of the worst dirt diseases are *cholera*, enteric and dysentery. Smallpox is helped by dirt. Eyes are destroyed by dirt, ears and teeth are damaged by dirt. There is no end to the mischief done by dirt in the wrong place and no end to the profit from dirt in the right place.

Dirty children are dull and unhealthy. Dirty villages hate progress and are content to live in *apathy*, ignorance and poverty.

Discipline. Discipline or self-control is very necessary if we are to live together as civilized people. If every one does what he likes and pays no heed to his neighbours the village will be dirty, uncomfortable and full of faction and quarrelling. We must therefore discipline ourselves or exercise our self-control. The use of a latrine is discipline, the throwing of rubbish into a pit is discipline, controlling our tongues and our *lathis* is discipline. Saving money is discipline, being good members of a co-operative society is discipline, obeying the law is discipline, refusing to give or take bribes is discipline, refusing to give false evidence is discipline. Paying taxes promptly is discipline. Before we do anything we must always consider

will this hurt or inconvenience my neighbours or the village? If so, ought I to do it or not? This is discipline and we cannot have a civilized life without discipline. Self-control is taught by mothers in the *upbringing* of their children but they require *domestic training* to be able to do it.

Discussion Group. (See READING ROOM.)

Diseases. Back to nature. In a general way all diseases and pests, whether of man, beast or plant, are the protest of nature against unnatural treatment, either dirty conditions of living, eating and drinking, a shortage of food—including, of course, light and air,—or the wrong kind of *food*.

Crops will resist insects, drought, frost and all other enemies much better in well ploughed, well weeded, well manured and well watered soil. Animals kept in clean, airy stables and given plenty of good fodder to eat and clean water to drink will resist disease far better than half-starved creatures kept in dirt and darkness, and drinking a dirty mixture of filth and water out of the all-purpose village *pond*. Human beings will resist disease far better if they live in clean, airy houses and are fed with a clean well-balanced and properly cooked diet.

Diseases of Crops. (See PESTS.)

Dislocation is caused by *closure* of grazing grounds. This is inevitable and although *conservation of the soil* will in the end vastly increase prosperity it will at first cause much trouble and inconvenience, and an entire change in their whole manner of living for very many people.

Closure means *stall-feeding* and usually also the *embanking* and terracing of the fields. All this involves a very great deal of work for many people, but unfortunately most cf those who now eke out their living by keeping a few cattle and goats, are not used to hard work and it takes time for them to adapt themselves to the new life, even though harder work means a larger income. Once the *pastures* and hill-sides are closed to *grazing* there will be more to do and to earn each year, both up in the catchment area and down below in the plains. New crafts and occupations must also be found and the people encouraged to learn them. *Bees,* medicinal herbs, *pyrethrum, teasels, fruit,* vegetables, including *bottling and canning* and dehydrating, *flowers, poultry, handicrafts* of all sorts, whatever is possible must be organized and if possible organized *co-operatively*.

After closure to grazing RECLAMATION will start, there will perhaps be *bunds* or spurs to build or trenches to dig, or grass, bushes or trees to plant, for the improvement of the land. Farming will improve; better farming always means more work, more food and more money. In time closure will produce valuable trees and plants for all manner of purposes. However much these people, whose manner of living has to be changed, may grumble, closure must come, as the alternative is increasing *erosion* and therefore increasing poverty and final ruin both for the grumblers and for everyone else. (See HILLMEN.)

Dispensary. The rural dispensary is paid for with your taxes so make full use of it. The headman, pensioner, ex-soldier or some other good citizen should make up parties of children and other patients and take them regularly—if necessary in *light ambulances*—to the dispensary and try to see that they carry out the doctor's orders afterwards. At harvest

time, weddings, births and at other social occasions give a subscription to the dispensary. Pay for your medicines. Pay something for the doctor's services so that more and more doctors and dispensaries may be established in the villages.

A Co-operative *Health and Medical Aid Society* can be formed for one or for several villages and provide a *dispensary doctor* and health officer to help you in preventing and curing disease and enabling you to make your villages and homes healthier and therefore happier.

Dispensary Doctor. He must be a health as well as a medical man. The lucky village with the dispensary in it must no longer be as dirty as the rest. It must have the best *ventilators, drains, pits, chimneys, wells* and *latrines.* The dispensary doctor must not only visit clinics on fixed days in the outlying villages. He must actively promote the health of all the villages served by his dispensary. The vaccinators, the sanitary inspectors, the malaria-control staff and all the other public health workers must be under his control and supervision and all must work together for the prevention and healing of disease and the promotion of good health.

Distribution of Seed must be carefully organized. Crops likely to be wanted for SEED must be watched and ROGUED. Indents for the next sowing season of any crop must be collected when that crop is cut. Seed is easy to get then, at other times it may be difficult and expensive. Who is to collect indents? The staff of the Agricultural Department are not sufficiently numerous to visit every village at every crop-cutting. There is the PATWARI who after CONSOLIDATION OF HOLDINGS will have far less work than before. He must be carefully trained in all these things, and as he has to visit all the fields for his crop inspections, he is best qualified to collect indents for the next sowing season.

Then there is the VILLAGE GUIDE. He, too, is there to help the farmer. Then there are the PANCHAYAT and the CO-OPERATIVE SOCIETIES. In the end a self-governing village will probably decide that it will do the work itself through its Panchayat and its Co-operative Better Farming Society, or some other co-operative society; but while all these agencies are being developed or expanded, seed indents will probably be collected by a variety of agencies, one doing it in one village, another in a second village and so on. At all events it must be done at every harvest, as good seed is vital both for the production of sufficient food and for the prosperity of the village.

District Organization. The Collector or Deputy Commissioner is the head of the District and is the captain of the team of workers, official and non-official, who are striving to *raise the standard* of living in the District. The head of the District has *Dehat Sudhar Committee*, an unofficial body of enthusiasts and experts to help in making, paying for and carrying out the programme of uplift, with its publicity organization to ensure that the programme reaches every home and every hamlet in the District. He has his *Officers Board* to ensure perfect co-ordination and team-work among all departments and organizations. He has his *Women's Welfare Committee* to advise him how to promote the welfare of the women and to help him to see that this side of the work is properly run and not allowed to be starved or neglected.

In the villages are the *panchayats* and *co-operative societies* and the *village guides.* With them the closest contact must be maintained as they

it is who will do most of the actual work. To ensure this there is the *publicity* organization and the representatives of every department and *organization*, official and unofficial, which are working in the district.

Dogs. The dog in most countries is the 'friend of man'. The dog is most loyal, hardy and intelligent. He does all kinds of useful work which no other animal can do, and man cannot do for himself. He must be made the friend of man in India and Pakistan too. At present he is only a 'pie-dog'. All over the world there are many breeds of dogs and each breed is trained to a particular work. Each of these breeds is or was the local dog, the pie-dog, in some country or other!

What must be done? Every dog must have an owner, a name, a home and a collar round its neck with the owner's name and address on it. Dogs must not be allowed to mate promiscuously any more than horses are. Breeding must be controlled and selective. If a bitch is not wanted for breeding it must be shut up at the right time and not allowed to mate. All unwanted puppies must be drowned, as in other countries. It is less cruel to drown the blind unconscious puppies than to let them grow up, get mangy and half-starved, go mad, bite people and be shot or only wounded by a dog-killer. Once dogs and dog-breeding are properly controlled, in a few years the dog nuisance will be over and handsome useful breeds of dogs which can be trained to do useful work will begin to be developed. And there will be far less *rabies*, as that is spread by dogs.

Domestic Engineering It has been completely neglected for the houses of the ordinary people. Every kind of home necessity and gadget has yet to be designed, e.g., *chula* or firegrate, *chimneys* and chimney pots or cowls, *ventilators* for walls and roofs, wall and roof plaster to prevent damage by rain (see CEMENT PLASTER), *hayboxes*, washing places, *latrines*, well-tops and *village water works*, *drains* for dirty water and so on. Cement will be found very useful for many of these gadgets. A grand opportunity for ex-service men both to make a living and do a useful job of work. The Defence Forces should include experiments in every kind of home equipment in their citizenship training.

We must have Better Homes exhibitions every year in every district and army area, when prizes will be given for the best models. If this is done our village homes will in a few years become as cosy and comfortable as they are in other countries.

Domestic Training. Ninety-nine out of every hundred women in India and Pakistan will have to run homes and the hundredth will be very glad to be able to help other people to do this. There is much ancient wisdom and experience which the daughter picks up from her mother and the daughter-in-law from her mother-in-law to help them in running their homes and bringing up their children. But this is not enough. Science and invention and the experience of other countries have brought much new wisdom which will be of immense advantage if only they can be brought to the village women.

Every girl and woman therefore

must receive domestic training. This includes all kinds of housework and housekeeping, household accounts, savings, cooking, food values, diets, sewing, knitting, darning, cutting out, making and mending clothes, hygiene, first aid, public health, the use of simple medicines and remedies, the prevention of disease, the mischief done by flies, fleas, lice, mosquitoes, rats and other insects and vermin and how to get rid of them, the bringing up of children, child welfare and psychology, children's games and even the making of toys.

Every diploma and degree, for whatever subject, must contain a compulsory course in domestic work and science of the most practical kind.

All young men when they marry should insist on their brides being well trained in making and running a home.

All this sounds very formidable but it is no more than all properly trained girls learn as a matter of course in all progressive countries. If it is wanted in other countries it is wanted ten times as much in India and Pakistan with their poverty, many diseases, scattered villages, uncertain climate, absence of communications, doctors, education and sanitation.

The women must be taught how to carry on, and run homes and bring up children in spite of all these handicaps. The teaching must be fully organized in all manner of *Domestic Training Courses*, schools and home-making institutes.

Domestic Training Courses, Schools and Home-Making Institutes. Schools and colleges are required for the training of teachers for all the various kinds of DOMESTIC TRAINING here mentioned.

Every girl in every class of every school and college must receive domestic training of a very practical kind, which she must not be allowed to dodge or skimp. Every examination, degree or diploma of any kind whatever must include an examination in practical domestic work which cannot be dodged. Besides this there must be special schools and courses suited to every type of woman from the highest to the lowest social classes and from the richest to the poorest, from those who keep many servants to those who will themselves be servants. There must be teaching suitable for illiterate as well as literate women, and for girls of every age.

In every district there must be home-making institutes with instruction of every kind, from lectures and demonstrations and short courses on single subjects to full courses of a year or more for those who can spare the time and money, or for whom stipends can be found, to come and live in the institute.

There must be regular courses of lectures, demonstrations and exhibitions at convenient centres which the women from round about can attend, and there must be touring exhibitions and demonstrations for the villages.

Touring teams of teachers must visit village after village staying a month or so in each and teaching all who come, young and old, literate and illiterate. It will probably be necessary to hire a house and make a little hostel for them in each village they visit. When they move on they must if possible leave behind a CO-OPERATIVE WOMEN'S INSTITUTE to keep the work alive and to continue the instruction under

the supervision of the Women's Co-operative Department, and the other *Women's departments and services.*

Domestic training must reach every village and every home. It is the most useful and the most honourable of all kinds of education. The men must insist on their wives receiving this training so that their homes may be efficiently run and their children healthy and bright.

Why all this insistence on domestic training? Because the absence of it is holding India back; there can be no real advance in civilization unless the women join in and help, and they cannot join in till they get this training. (See HOUSEWIFE and HOME.)

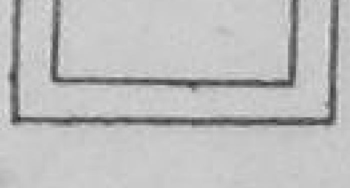
Drains. (Field) Many villages let their roads become drains. They cut down deeper and deeper into the soil every time it rains until they are no use as roads, and as drains they not only take away the rain water but they cut back into the fields and drain away subsoil water as well. Drains for monsoon rain should be quite separate from roads. (See VILLAGE ROADS.) When drains are liable to go on cutting down and getting deeper they should be dammed at intervals to prevent this.

If all the fields are *embanked* and terraced and the *pastures* closed to *grazing* the run-off of the rain water will be less violent and more easy to control, but even so, drains will be wanted.

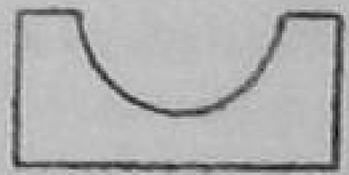
Where water has to be let out of embanked fields it should be led into the *nulla* from the top of the terraced field and not the bottom, where it will have to rush down the terrace and will cut away a lot of soil while doing so. For this purpose the terraces, particularly if the soil contains clay or if the rain is excessive, must be made dead level or even sloping slightly towards the hill. Brushwood may have to be used, or stones or masonry, to help to get rid of water without letting it do harm.

Drains. (Village) Waste water from well, mosque, temple, or house at present runs or stagnates in a long, black, stinking ooze, producing dirt, stench, and insects, and is a nuisance to everyone. This must stop. All waste water must run in pucka channels to the nearest open ground where a small garden or a patch of vegetables, flowers or trees can be grown, surrounded by a wall or fence. If there is too much water it must run to the fields and there mix with well or canal water. To do this it usually has to run into a sump on the edge of the fields and be lifted with a Persian Wheel. If neither a garden nor a patch are possible and it cannot be taken to the fields then a *soak pit* or *sump* must be made.

The drain must be U shaped and have no angles that will collect dirt. It should be made of *cement* concrete or be faced with cement so that the water will flow easily. If neither is possible then specially made U-shaped drain bricks must be used, but the joints in the bricks will check the flow of the water unless they are well laid and carefully painted with cement. Drains of this shape are

bad  as dirt collects in

the angles. Proper shaped drain brick

should be like this: 

Drama. An excellent way of combining teaching and entertainment. (See RECREATION.) People will sit up half the night to watch a good drama. But it must be good. Not everyone is a good writer or producer

of dramas and plays. Those who write *uplift* plays must write good ones. The play should not be too long. Perhaps an hour and a half is ample; and too much 'uplift' should not be packed into one play. Take one subject—say girl's *education* or good *seed* —make that the centre and object of the play, and do not wander all over the whole uplift *programme*. A very good entertainment can be got by having a series of short playlets on different subjects by different clubs and schools — perhaps fifteen or twenty minutes each, all competing for a prize. (See SHOWS.)

Do not allow a school drama club to neglect its school work for a longer tour in the district. Many drama clubs and schools doing occasional shows are better than one semi-professional team. Remember that members of the drama club themselves learn a lot from selecting and staging an uplift drama.

The old Punjab Co-operative Department had wonderful drama parties. They had a great advantage in that all their members had already been well trained in 'uplift' work and were as enthusiastic for uplift as they were for drama.

If you have the funds by all means engage and train a professional drama party to tour with uplift plays. But when engaging a party this should be borne in mind—the actors must not only be able to act, they must know and believe in the uplift programme. If you do not do this you may get a good entertainment but it will have no teaching value whatever, as, for teaching the new life, sincerity is essential.

Drills. There are various kinds of seed-drills for sowing various crops; ask the Expert about them. It is far better and quicker to sow with a proper drill than to use the village seed-plough. (See LINES.)

Drinking water. Drinking water comes from wells, hand-pumps, canals and unfortunately even sometimes ponds.

(i) Hand-pumps. If you can put in a small tube and hand-pump, by all means do so, but don't let the pump stand in a pool of mud and dirty water. Make a mound of earth or masonry round it and drain away the water to a little patch of flowers or vegetables or to a soak pit or sump. (See VERANDA, for a good idea for hand-pumps.)

(ii) Wells. (See WELLS FOR DRINKING.)

(iii) Canals and Ponds. These should only be used if wells and pumps are impossible. The canal may be clean, it may not. The pond is sure to be contaminated and both canal and most certainly pond water should be boiled before drinking.

The special danger of pond water is a painful disease called GUINEA-WORM.

No soak pit (see DRAINS), LATRINE or manure pit should be within fifty or sixty feet of a well or hand-pump.

Drudgery. The wife must not be a drudge, she must be her husband's companion and his partner in the whole enterprise of home-making and of raising the *standard of living*. Moreover, once the woman begins to be taught to make and mend clothes, to knit and do all the other things needed to make her home bright, and to bring up the children

properly (see DOMESTIC TRAINING) she will have no time for grinding corn (see FLOURMILL) or making dung-cakes (see HAYBOX) or chopping fodder for cattle (see CHAFF-CUTTER). The women must therefore be relieved of all the drudgery that can be done by machinery or got rid of altogether. Another bit of dirty drudgery is carrying rubbish and ashes in head-baskets which makes the hair and clothes dirty. (See WHEEL-BARROWS.)

Dual-purpose Cattle. That is to say, the cows yield milk and the bullocks plough and pull carts. Pedigree milk CATTLE and pedigree draught cattle are usually quite separate breeds but for the ordinary villager, dual-purpose cattle are a practical proposition. The milk supply of the cows of good draught breeds can be greatly increased without reducing their capacity to produce good working bullocks. This is not done by crossing them with bulls of milk breeds—that will only produce MONGRELS—but by SELECTIVE BREEDING; that is to say, by always preferring those cows which besides being satisfactory for breeding draught bullocks are also good milkers, and by using bulls which besides being good for breeding draught bullocks had dams and grand-dams which are good milkers. (See DAIRY.)

Dull. The village is a dull spot. There is nothing new to think about or talk about. Nothing happens. There is no newspaper, no radio, no games club. Even a dog fight or a party squabble is a welcome diversion. No wonder the villager is apathetic and his mind is inactive. No wonder the schoolboy once he gets a glimpse in the interesting world beyond, wants to leave the village.

There is no need for the village to be dull. There is no end of things for the villager to think and talk about and to do, the doing of which would make his home and village the brightest and the happiest and the most healthy place in the world.

It is the job of the *uplift* movement to bring these new things along and to get the villager to see them and to hear about them and then to discuss them and try them.

Dung-cakes. (*Upla*) The housewife spends a lot of time making dung-cakes—a dirty bit of drudgery which probably spoils her fingers for needlework, and certainly starves the land of its rightful food and thereby reduces the food supply of man and beast.

Most of the dung-cakes are burnt to keep things hot or to burn pottery and bricks. To keep things hot the *bhoosa* box (*haybox*) must be used. Pottery is very soft and brittle. Would it not be better to replace pottery with china and 'stoneware' which would last far longer and so save a lot of the cow-dung now used to burn pottery. China can be made very beautiful as well as very useful. Another industry for the villages.

Duty. (See RIGHT.)

Dysentery, a dirt disease. (See CHOLERA.)

Economic Improvement. The possibilities of economic improvement are very great. Better farming, better sheep and cattle, better fruit and vegetables, better crafts, industries and sidelines, better finance, better marketing, more thrift and saving, less waste, less extravagance and harmful expenditure—all this will treble our wealth and resources.

Economic improvement however is

not the final object of uplift. It is only a means to an end. The end is happiness, a higher standard of living. At the same time a certain amount of money is essential to a higher standard of living and economic improvement is very necessary where the people are very poor. Moreover by enabling the people to improve their economic position we may win their confidence and be able to lead them on to want a higher standard of living. Economic improvement without a higher standard of living can only lead to waste, extravagance and debt and in time a worse position than before. (See POPULATION.)

Money is only valuable for what it will buy and we must use it for buying and maintaining a higher standard of living—and not for multiplying the wastes and extravagances of a low standard.

Economizing of Canal Water. To do this you must obey the following rules so that you need not use a drop more than is actually needed for your crops, as canal water is very precious and must not be wasted.

(i) Divide your fields into as many compartments as possible.

(ii) Keep your field-banks strong.

(iii) Keep your water channels straight and clean, and as narrow as possible.

(iv) Build culverts wherever roads and tracks cross them.

(v) Never let buffaloes wallow in them and never allow any obstruction to block them.

(vi) Never cut water channels, never steal your neighbour's water, never take water out of turn, never try by bribes or any other trickery to get more than your share of water.

(vii) Co-operate with your neighbours and with Government in the fair and careful distribution of the water.

(viii) Behave as you would like those who live up-stream of you to behave.

For other ways of economizing water (see SAVING WATER.) And remember that when you waste canal water by letting it run out of your fields, you may make it easy for mosquitoes to breed, and so spread malaria.

Education. Everyone must be educated but education includes training in leadership, it must be practical and as many girls as boys must be educated. If a boy goes to school, a boy is educated; if a girl goes to school a whole family is educated. The girl must learn how to run a home and bring up children and the boys must learn the simple ways of making life and livelihood safe, healthy and happy. In a country where malaria may bring industry or the harvest to a standstill the life history of a mosquito is more important than that of the Emperor Akbar. At every stage in girl's education in school and college, in every examination, degree and diploma, a domestic training of the most practical kind must be included, and no girl must be allowed to dodge it or merely skip it. Boy Scout Troops and Girl Guides are a great help in making education practical and in training leaders.

Education must include the regular use of the kind of latrine approved for village or town. The latrine habit will never come until the school children are compelled to learn it.

Education for boys must also include at least one handicraft so that the boys may learn the dignity and joy of creative manual work and their fingers may be supple and their brains, eyes and hands co-ordinated, before they grow up and stiffen.

In a word education must help and not hinder the uplift of the country

and the forming of public opinion in favour of it.

Embanking and Terracing. The rain in India is uncertain, there are long droughts, and very often very little rain when it does come. To make the best use of it therefore and to prevent it doing more harm than good by erosion, when it does come, every field of *barani* land must be embanked on the down hill-side. Very little land is absolutely dead level (see STREET EROSION) and every farmer knows which way the water runs in each field when it rains hard. Where the land is at all steep the fields must also be terraced if there is enough soil to do this. If there is not enough soil then *contour bunds* must be built. Wherever necessary field *drains* must be arranged to take away surplus water from behind the banks.

No farmer would think of pouring well or canal water on to unlevel land. Why then should he let rain water be wasted by letting it fall on unlevel land? When God gives him rain water free of charge he should be all the more careful not to waste it.

If fields are terraced and embanked or protected by contour bunds the rain water will last much longer, and the crops will not dry up if the next shower is late in coming, (see WELLS FOR FARMING); the top-soil also will get deeper and the fertility of the land increase every year.

All field banks must be kept in good repair, and looked at before and after every fall of rain.

Consolidation of holdings is often necessary to enable embanking and terracing to be done properly.

Enteric a dirt disease. (See CHOLERA.) Consult the doctor about inoculation of yourself and family, if a case occurs in the neighbourhood; but certainly be inoculated if one occurs in your own home.

Epidemic Diseases of Animals India suffers immense loss from epidemic disease of animals, and unfortunately it is the best animals that die first, as well-bred animals are liable to be less hardy than scrub-bred animals.

The quickest way to stop epidemic diseases is to segregate or quarantine all new animals for ten days. When you buy, beg or borrow a new animal—whether horse, bullock, sheep, goat, rabbit or cockerel—keep it by itself and as far away as possible from all others for ten days. If at the end of ten days it is fit and well, put it with the rest. If during its quarantine it goes sick and dies—well, you have lost it, but you may have saved all the rest of your animals, and the whole of the village, from an epidemic.

If the animal dies in quarantine or if at any time one of your animals dies suddenly, burn everything in and around where it was kept. Don't let anyone skin it. (You must compensate the man who has the right to skin your cattle for his loss. It is your cattle not his you are saving by not allowing him to skin it.) Burn it or bury it very deep with lime and get another! If you do this, three-quarters of the epidemic diseases of India will stop and the veterinary doctors will be able to cope with the rest. But until you do this, all the veterinary doctors in the world will not stop the epidemic diseases of India's animals.

A Co-operative Society will help you to quarantine your new animals. Without one, it will be very difficult. (See ANTHRAX.) Rinderpest, Blackquarter, Malignant sore throat and foot-and-mouth disease, the worst five. Inoculation will stop all but foot-and-mouth disease from spreading to other animals.

Erosion. Removal of the top-soil, by wind and rain, so that in time, little or nothing will grow on the land and even the rivers and wells lose much of their water. Erosion is a terrible and growing disease in India and all the world over. It is caused by the destruction of the '*vegetative cover*'—i.e. the grass, bushes and trees—by *grazing* and by BAD FARMING, i.e. ploughing and cultivating unlevel land.

India with its short sharp rain-storms, its short growing season, its long droughts, and its great heat is particularly liable to erosion. Many millions of acres of India's soil—her principal capital asset—have already been lost by erosion, and hundreds of millions more are on the way to be lost. Many people believe that erosion is reducing the amount of *rain* that falls. The remedy is: (i) CLOSURE of pastures and hill-sides to grazing. (ii) The proper management of the *common land* and of all 'waste' land in the interest of the community. (iii) *Embanking and terracing* cultivated land. These two together are called *conservation* of soil. Man must look after and conserve the plough-lands by embanking and terracing; the hills must be closed to grazing and left to nature; she will then put them right again, and often much quicker than we deserve.

Erosion produces *floods*, drought, poverty and ruin. If it is allowed to go on, it will turn large parts of India into a desert, which will support neither man nor his animals and will dry up both wells, springs, rivers and canals. God never made a desert. Deserts are caused by man's interference with nature and his desire to get more out of the land than he has earned or is entitled to and more than he puts back into it. He must stop doing this before it is too late.

Land is a sacred trust, to be used by us in such a way that we may hand it on to our children in as good or if possible in better condition than we received it from our fathers. To allow erosion is a sin against our country, our children and our God, and the punishment is certain ruin for our children and our country. A man who lets his land be destroyed by erosion is robbing his country and posterity.

To ensure the conservation of the soil, the causes and cure of erosion must be taught in every school and college. All revenue staff must be thoroughly trained in them. The condition of all land and of all field terraces and banks must be regularly entered in the revenue papers and periodically and thoroughly checked and inspected to ensure that those who are not doing their duty to their land may be warned, and if necessary compelled to put their land in proper order so that it may steadily improve by good management and not get worse and worse by neglect. (See DEVELOPMENT OF LAND.)

Example. People take very little notice of what we say but they will generally copy what we do. Those therefore who wish to help in spreading the new manner of living must first live the new life themselves. If we want the villagers to use good seed or dig pits we must use good *seed* and dig *pits* ourselves. This is the only *leadership* that is of any use at all.

Government itself must set an example in every way possible. Its offices, residences, estates, and any estates such as Courts of Wards' estates for which it is responsible, must be perfect models of the new way of living. Every Government building must have the proper kind of ventilators and chimneys and latrines, all rubbish must go into properly dug pits, there must be no mosquitoes bred on Government land or in

borrow-pits dug by Government—and so on all through the programme of uplift.

Leaders, official and non-official, all Government servants, must set an example. Everyone who has the *privilege* of wealth or education or of social, religious or official position must learn the whole uplift *programme* and set an example by living it to the last detail in his own office, (see TRAINING) factory, home or estate.

Nothing hinders *uplift* more than the extravagant weddings of those who ought to know better, or their neglect of the simple ways of improving their houses and kitchens, or their neglect of the welfare and the housing of their dependants or servants.

Expert. Our taxes are used to train experts in every possible subject, farming, vegetable and fruit growing, poultry and bee-keeping, animal husbandry, health, co-operation, home-making, and in all crafts and industries. These experts are paid to help us. If we do not make use of them we are wasting our taxes.

There are not enough of them to visit every village every day. When therefore they visit us we must make the most of them. For this purpose we must make Co-operative Societies for all our various kinds of work. Then, when the expert is coming he will send a post card to the secretary of the Society and the secretary will have us and our problems ready when the expert arrives.

Take the case of good seed. If we don't co-operate with the experts, the agricultural expert might be able to distribute about a hundred maunds of wheat seed each season. If we co-operate fully, he might easily distribute ten thousand maunds.

Some people will not use the expert. They say he doesn't know their village, so how can he be of any use? This is nonsense. The Expert has to be trained at some central place and he has to learn the general principles of his subject, so that he may apply them in any village he may visit. The more therefore he visits each village the more he will learn of its particular conditions and problems, and the more he will be able to adapt his knowledge and experience to its needs. The more you use the experts the better they will become.

Ex-service Men. The ex-service man must not waste his savings as soon as he gets home. He must make up his mind about what he is going to do for a living and use his savings to get a start. He must not try to boss the village, he must co-operate with the leaders and the Government officials, join co-operative societies and generally try to be useful to himself and his neighbours and use all he has learnt in the Forces for his own and his neighbours' good. He must not join factions and parties, nor waste his money on litigation. He must insist on his womenfolk being educated and trained in domestic work. (See RALLIES and EX-SERVICE MEN'S ORGANIZATION.)

Ex-service Men's Organization. All EX-SERVICE MEN should if possible be organized in Co-operative Societies. It does not much matter what the object of the society is, poultry, better living, etc. The great thing is that every ex-service man should be in a society. The societies will be organized in federations and unions and in this way the ex-service men can be kept together.

The members will not be exclusively ex-service men. Others can also join so that instead of becoming an exclusive body, the ex-service men will be used as a leaven to raise the whole standard of village life.

The co-operative supervising staff

will also contain a very large number of ex-service officers and men. They are splendid material to train for this department and will help in enlisting ex-service men in the societies and in holding them together. (See RALLIES and ARMISTICE DAY.) In the undivided Punjab ex-service men were being organized in MULTI-PURPOSE CO-OPERATIVE SOCIETIES.

The co-operative organization is probably the best way of holding the ex-service men together and enabling them to pull their full weight in peace-time for their own and their country's good.

Eyes. God has given us only one pair of eyes so that we must look after them very carefully. Eyes, particularly children's eyes, are very liable to damage from dirt and flies. The poor children must play somewhere and if the village is dirty they must play in the dirt. Flies settle on their unwashed or diseased eye-lids, whenever they can, and they carry disease from eye to eye. Both dirt and flies can be got rid of—and must be, lest the parents' carelessness bring life-long punishment to the children in bad eyes or blindness. Children's eyes must be cleaned daily, if necessary several times daily. Eye diseases are often very catching, so never wipe eyes on clothes, *pagris,* dhotis, saris, towels, etc. Use a special bit of cloth or cotton for each eye and never the same bit for more than one eye, even of the same child. Antimony (*surma*) is good, but every child must have his own rod. Cold, weak tea, or salt water are excellent eye washes.

Take your child to the doctor, not the quack, the moment anything goes wrong with its eyes or if you think that everything is not quite right. Eyes can very often be put right in early childhood but if neglected may be damaged for life. Small-pox often damages or destroys the eyes so see that your children are properly vaccinated. (See NEW BORN BABIES.) Diseases that make the eyes discharge or become red or inflamed are very catching, and no child in that condition should be allowed to go to school.

Faction. The curse of village life. Wastes time and money, prevents people planning and working together to make things better, prevents anyone making progress, for as soon as he starts he is shot down or obstructed by the opposite faction. Encourages *bribery* and false evidence and litigation. For the cure (see CRIME). In a word the cure is plenty of work and play for all.

Failure. There is no such thing as failure or despair in ' uplift '. OPPOSITION must stimulate; failure must be examined and turned into success. If we wilt under opposition or disappointment either we have not the goods to deliver, or we have not the guts to deliver them.

False evidence. (See BRIBERY.)

Farmer. The farmer's duty is to get the best possible CROPS out of his fields, while preserving the soil from erosion, and maintaining, and if possible increasing, its FERTILITY, and assuring the HEALTH, WEALTH and WELFARE of all those who work on his land; or make their living from what it produces. To do this he must use:

(i) His Brains. Consult the *Expert* whenever possible, go and look at other people's farms, and Government farms, read *newspapers,* books and pamphlets, keep ears and eyes open, visit markets to see what is selling best, and always be ready to try new crops and *new methods* and new *implements.*

(ii) His Muscles. There is always something to do on a farm to improve the crops, the *land,* the roads or the buildings. A good farmer is never idle. The best irrigation is the farmer's sweat.

(iii) His money. No money is wasted that is spent on improving the farm, the *land,* the tools, the *livestock,* the water supply, the *seed,* the trees, the *manure* and the buildings.

(iv) All the manure he can possibly get hold of.

(v) A *Co-operative Society* so that he may help and be helped by his friends and neighbours.

Farming (Bad). There are many kinds of bad farming; cultivating unlevel land without waiting to EMBANK and if necessary terrace it, ploughing furrows down-hill and so helping the rain to wash away the SOIL; neglecting to keep field banks in good repair; SHIFTING CULTIVATION is the worst possible farming; burning cowdung instead of using the HAYBOX; failing to dig PITS to collect every possible scrap of MANURE and rubbish and waste for the fields; sowing the same crops in each field year after year instead of following a proper ROTATION; wasting instead of ECONOMIZING and SAVING water; using bad *seed* instead of good; failing to use the EXPERT; failing to make the best use of *brains,* muscles and money. (See FARMER.) There are many other kinds of bad farming you will find in this book.

Farming (Good). A good farmer loves and serves his land. He would rather die than spoil it by bad farming. For good farming the land must be:

(1) Stable, that is to say, there must be no EROSION. (See EMBANKING.)

(2) In one place. (See CONSOLIDATION OF HOLDINGS.)

(3) Fenced, if possible. (See FENCING.)

The other requirements are:

(*a*) BRAINS.

(*b*) Plenty of HARD WORK such as WEEDING, HOEING, HARROWING and mending TERRACES, field-banks, FENCES, and village roads, etc. A good farmer is never idle; the sweat of the farmer is the best irrigation.

(*c*) MANURE. The most careful collection in PITS of every scrap of dung, rubbish, crop wastes, weeds, stable litter, urine, etc., from house, stable, village and farm.

(*d*) WATER and careful attention to water channels and the most economical use of water. (See SAVING WATER and ECONOMIZING CANAL WATER.)

(*e*) GOOD CATTLE. (See ANIMAL HUSBANDRY.)

(*f*) GOOD SEED and NEW CROPS.

(*g*) GOOD METHODS and good IMPLEMENTS.

(*h*) Attention to PESTS and diseases.

(*i*) ROTATION of crops.
(*j*) Full use of the EXPERTS.
(*k*) Money—obtained from a CO-OPERATIVE SOCIETY or a SAVINGS BANK ACCOUNT—and used only for 'productive' purposes.

Good farmers belong to Co-operative Farming Societies which help them with seed, implements, *marketing* and everything else they need.

Feeding of Animals. It is a waste of money and food not to feed animals properly. Pedigree breeding is no good without proper feeding. Underfed animals mature slowly, do not grow to full size and cannot develop their legs and bodies properly. The bullocks cannot do full work, the cows cannot give full milk, nor will animals breed properly unless they are properly fed. If a young animal is well fed it matures much quicker and begins to work and to breed much sooner. By beginning to do its job and so to earn money much quicker, it saves both time and money for its owner, it works better all its life and its working life is much longer. Good feeding therefore pays a good profit and it is far better to keep fewer animals and feed them well than to keep a lot of animals and feed them poorly.

If you possibly can, grow special green fodder for your cattle for the dry season.

Make and use SILOS.

Keep and use a chaff-cutter.

Fences. Cattle and wild beasts destroy many crops. Wherever possible fields should be fenced on the sides towards roads and jungles and pastures. Where rainfall is sufficient quick hedges should be grown, that is to say, the seeds of thorn bushes should be sown thickly and as they grow they should be cut back so that they may branch thickly and as close as possible to the ground. The branches should be intertwined until a thick fence is produced. This should be regularly clipped so that it remains the right height and thickness. If it is once allowed to grow up high, gaps will come at the bottom and it will soon be a series of bushy trees. Not only will it be useless as a hedge to keep out animals, but the trees will overshadow and spoil crops for several yards into the fields. So keep your fences well clipped and never let them grow higher or wider than you want.

Field-banks. (See EMBANKING.)

Fish. A source of good food and good industry. But fish are neglected and the fishermen exploited. If fish were protected by law they could be multiplied in all our rivers and tanks and if the fishermen were protected and organized in co-operative societies for the improvement of their methods and for marketing and finance, they would make a good livelihood and there would be fish for all at reasonable prices.

Certain kinds of fish will eat mosquito larvae, and should therefore be kept in all water in which larvae are ever found. You must consult the expert about this. It may mean keeping a stock in some suitable tank or well and then putting some across into the necessary places when the season for mosquito larvae comes round.

Flies. Flies breed in all kinds of dirt and spread many kinds of disease. Flies first walk about on night-soil and other kinds of filth and dirt and get their feet dirty. Their feet are hairy so plenty of dirt sticks to them. Then they fly away and settle on the food! In the filth are the germs of all manner of diseases. Flies also have a nasty habit of vomiting which adds still more filth to the food they sit on.

Flies sit on sores and on children's

eyes and spread eye diseases from eye to eye and child to child, (see EYES) and cause them very much pain and suffering and much permanent damage to their eyes. If children's eyes are kept clean fewer flies will sit on them. (See NETS.) If pits and latrines are used and villages are kept clean and tidy there will be far fewer flies and far fewer diseases.

Flocks. The 'controlled flock' scheme is an excellent way of teaching better management of sheep and of grading them up. In this scheme the provincial Government, after surveying the province, buys sheep of the best local breeds and hands them in units of fifty ewes and one ram to selected shepherds, who agree to keep them and breed them according to the instructions of the Government animal-husbandry experts. The terms are of course subject to revision as experience is gained. Government claims ownership of a constant herd of fifty-one sheep, but all increase beyond this number belongs to the shepherd, and so does the wool and any other by-product. Government is entitled to buy the surplus males and females at agreed prices and this enables Government to increase the number of controlled flocks, and to provide superior rams both for exchange between the flocks and for issue to others. Another promising method is the paying of a small subsidy to selected shepherds who agree to follow faithfully the instructions of the animal-husbandry expert in the management of their flocks.

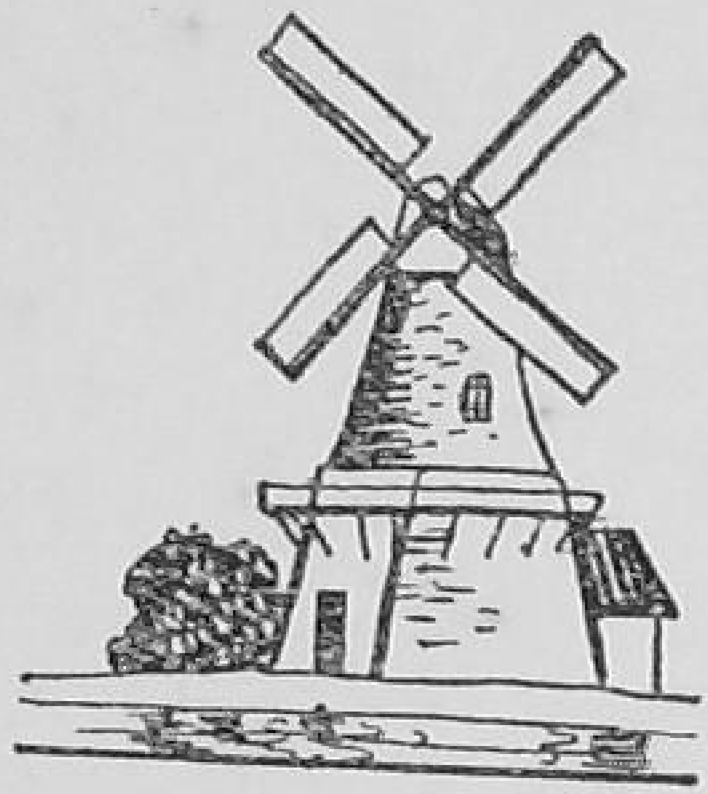
Floods. Floods are caused by *erosion.* As the land gets barer and barer by *grazing* more and more *top-soil* is washed away by the rain, less and less grass and trees can grow, and more and more of the rain as it falls rushes off down-hill. Moreover, water will not soak into subsoil as easily as into top-soil, nor can subsoil hold as much water as top-soil. Again the silt in the water seals the pores of the soil and stops it soaking in. Worse still, the earth and silt carried by the water increases the volume of the floods. The barer the soil, the faster the water flows, and the faster the water flows the more silt it will carry, up to an amount equal to its whole volume. The evil therefore keeps on multiplying itself, and the floods get bigger and bigger. As there is less and less water left in the hills the land dries up quicker and quicker, the subsoil gets drier, the springs dry up, and there is less and less water for the wells, rivers and canals.

Down to the plains rush the floods. As the slope of the land and the speed of the water decreases the *silt* is dropped by the torrent, covering the land with useless sand. The torrent has to go round these banks of sand and so cuts a channel both sides, getting wider and wider till a desert of sand that may be miles wide is formed, destroying vast areas of fields and many wells and villages. Torrent beds which were a yard wide in our grandfather's time may be a mile wide today. The poor villagers below are punished for the sins of the hill-men and are helpless to defend themselves. Besides destroying fields, wells and villages, floods destroy and damage bridges, embankments and canal headworks. The bigger the floods the more the money that has to be spent on repairing and strengthening these works, leaving less money for schools and hospitals.

Flour. Flour should always be wholemeal flour which contains the full value of the grain and is, after milk, the most important food we have. White flour has lost most of its food

value and should not be made or sold in a country where so many people are suffering from malnutrition.

Flour Mill. Flour must not be ground with the *chakki* or handmill. This is a terrible drudgery for the poor women who should be spending their time on far more important things—such as making and mending clothes, training their children, making their homes beautiful. (See DOMESTIC TRAINING.) The women will get plenty of exercise without grinding corn. They have to take the food to their menfolk in the fields, they help at harvest time and at other times too. They have to fetch water and look after their children.



Flour used to be ground by criminals in prison but now it is considered too bad even for them. Yet the poor women still do it! No, flour must never be ground by women. Those men who think it is good exercise for women should try it themselves. Grinding flour in the handmill is bad exercise—very cramping and fills the lungs with dust.

Flour should be ground in watermills or windmills or by bullocks in a *kharas* or by an engine, (see FLOUR) but never by women.

The only handmill for flour should be the kind which has a handle like a chaff-cutter, and is worked not by a woman but by a man who *stands up* to turn it.

Flowers. One of God's greatest gifts to man must be grown in every village and in every courtyard however small and humble. The waste water from the house is quite enough to grow flowers with.

Villages should organize flower shows in which people from all the neighbouring villages compete and prizes are given to the winners.

Prizes can also be given to the village with the best flower gardens and the best flower patches in the courtyards.

Schools, Girl Guides and Boy Scouts should collect flower seeds and distribute them with instructions how to prepare the soil and how to sow the seed and look after the plants as they grow. Schools should allow girls and boys to take seedlings home as well as seeds from the school garden.

Folding Sheep on the Fields. The MANURE of sheep is extremely valuable, and whenever he can, the farmer should get sheep on to his fields, both to graze his stubbles and to spend the night there, even if he has to pay for the shepherd to bring them.

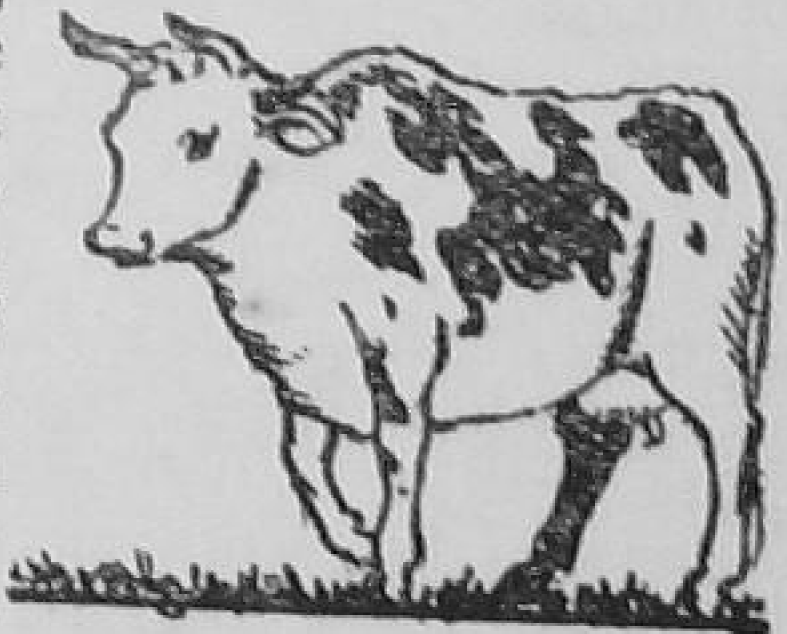
Food. Food is one of the foundations of health. Food must be of the right kind and of sufficient quantity. Food must include the *protective foods.* (See MALNUTRITION.) Food must be clean. (See CLEAN FOOD.) Flies must not be allowed to sit on it. All food must be kept under gauze or muslin covers. *Milk* is particularly liable to carry disease germs. Food must be fresh. Stale food often carries disease and has less food value than *fresh food.*

Foot-and-mouth Disease. An EPIDEMIC DISEASE OF CATTLE. Very common and spreads rapidly. The symptoms are: fever, and the animals smack their lips, then

refuse to eat and go lame and keep lifting one or more feet. A large blister followed by a raw patch is found on or under the tongue and on the feet. The tongue will heal if the animal is fed on sloppy foods but the feet will give trouble for a long time particularly if the animal is allowed to move about on dirty or muddy ground.

There is no preventive yet known for foot-and-mouth disease. The best precaution to take is to build a shallow 'foot-bath' of brick or cement concrete, fill it with the proper disinfectant (ask the veterinary doctor) when the disease comes near your village, and drive your cattle through it every morning and evening on the way to and from their pastures. When animals are stall-fed and not overcrowded on the pastures this disease will become far less common.

Foreign Cattle. When the dairyman sees the Army Dairy Farms he is tempted to try foreign cattle. This is unwise. The foreign cattle have nothing like the resistance to disease that the Indian breeds have. They are kept in ideal conditions on an Army Farm, which cannot possibly be copied in the village, and therefore they are not so hard to keep in health, but if they were kept in a village they might not last very long. Even if they were crossed with Indian cattle, the cows would soon deteriorate, the bullocks would be much inferior to the good Indian bullocks, while the young bulls would get among the Indian cows and produce MONGRELS. Foreign cattle are not a short cut to more milk. Grading up the Indian breeds is far the best way to get more milk.



Foreign Poultry. Foreign poultry give excellent results. They can be acclimatized and give more eggs and more meat than the local POULTRY. They require to be very carefully looked after, as they have not the same resistance to disease which the local poultry have, and as you know, poultry disease is very bad in India. You can either keep pure-bred foreign poultry—Rhode Island Reds and White Leghorn are the best for India or Pakistan—or you can get foreign cockerels and use nothing but them with your hens. Each generation will be nearer the foreign breed you have chosen and in this way you will steadily grade up your whole stock—if you are careful not to allow in any local cockerels. The cross-bred fowls have more resistance to disease than pure-bred foreign birds. Another method of improving poultry is to grade up the local breed by SELECTIVE BREEDING but this is a much slower process than by using foreign birds.

Forests. *Grazing* destroys forests. Trees cannot grow where cattle, sheep and goats graze. They eat every young tree as it comes out of the ground. They destroy the *vegetative cover* so that the *top-soil* is washed away by the rain and nothing more can grow. In this way forests soon become deserts.

Forests must not therefore be used as grazing grounds. They must be kept to grow trees. Thereby they will be far more valuable, there will be fuel and timber for everyone and plenty of work for those who want it in felling, extracting and working the timber.

Forests are of two kinds, Government and village. Village forests are usually destroyed by everyone felling and lopping the trees as they like, and grazing as many animals as they like. The best way to save and develop village forests is by *Village Co-operative Forest Societies.*

For Government forests (see FORESTS, GOVERNMENT).

Forests, Government. Most people think forests can only belong to Government and it is their right and privilege to trespass, graze, lop and cut as much as they can, with or without permission and wherever possible without payment.

This is very foolish, short-sighted and wicked. For every rupee's worth of grass, fuel or timber they get they do ten rupees' worth of damage—not to the Government but to their country and to posterity—that is to themselves.

Government belongs to the whole people and so do the forests, and therefore those who do these things are robbing the people just as much as if they broke into the Government Treasury and stole the rupees and currency notes.

Unfortunately people will not respect Government forests till they learn to respect their own. The first step therefore is to develop the village forests and grazing grounds by *Co-operative Village Forest Societies.* Once the people see the value of treating their own land and forests properly they will learn to respect Government forests.

Most Government forests are encumbered with *grazing* rights, by which villagers are allowed to graze their animals there. The result is that these forests are being steadily destroyed and the *soil* is being carried away by *erosion.* To check this destruction Government forests are sometimes closed to grazing, turn by turn. This is called *rotational* closing. Unfortunately, all grazing is overgrazing and does so much destruction that the forest cannot possibly recover during the closed period, and so gets worse and worse in spite of rotational closure.

Four Freedoms. The villager's four freedoms are:

(i) Freedom from debt, hunger, insecurity of crops, food and livelihood.

(ii) Freedom from dirt, disease and suffering.

(iii) Freedom from ignorance, idleness and boredom.

(iv) Freedom from faction, quarrelling, litigation and the tyranny of the petty official.

Free Issues of bulls, ventilators, quinine, etc., are fashionable but they stop progress, as they limit it to what Government can find money to provide. Free issues kill self-help and initiative. Once these useful things are given free everyone waits for Government to give them and no one will buy anything even if he has the money. Free issues must be made unfashionable. Nothing must be given free except to genuine paupers. Everything must be paid for in part or in full, by cash or by labour. It must be made so much the mark of a pauper to accept free things that no one will willingly do so. Progress will be a bit slow to begin with, but once the custom has been started it will become far more rapid because it will depend, not on the money Government can spare each year but upon the keenness of the people themselves. (See RADIO, MEDICAL FEES, QUININE, and CONSOLIDATION OF HOLDINGS.) Even medical aid should not be free. All but genuine paupers must pay for doctors and medicines according to their means.

No one values what he gets for nothing. Every one values what he has himself made or paid for.

Payment brings self-respect, pride and progress, and provides money for more progress. In the same way all societies and associations should have paying membership.

As far as possible Government must never spend more than it can possibly help on the things people can buy themselves. Government must keep the small funds it has for things the people cannot provide themselves.

Fresh Food is very hard to get in towns. In particular *milk* is very scarce, very expensive, very dirty and mixed with much water. The Town Authorities should encourage co-operative vegetable, fruit, poultry, dairy, or *milk recording* or *milk collecting* societies in the villages round and help them with *marketing* and milk-testing arrangements. The Town Authorities should also encourage consumers to organize themselves in *co-operative societies* to get their *milk*, *fruit* and *vegetables*, eggs and other fresh food from the producers' societies in the villages around. A 'pure milk and ghee', 'drink more milk', and 'eat fresh food', campaign would encourage people to insist on pure milk and better *food*.

Fruits and Vegetables. Absolutely essential for the health of the family, and extremely valuable to sell in the market. Every farmer who possibly can, should grow them at least for his own family if not for the market as well. But never sell vegetables or fruit until your own family has got enough for itself. There is no disgrace in growing vegetables but there is much stupidity in not making the best possible use of our land by doing so. For those with not very much land or for those living near towns it is quite the most profitable kind of farming.

Fruit and vegetable growing, like everything else, must be learnt, otherwise the grower will be harried by disease, will not get the best crops and will lose the benefit of the new and better methods of husbandry continually being discovered by Government.

As these vitamin-producing foods—milk, ghee, vegetables and fruit—must be grown near the towns and brought in fresh daily, *Co-operative Societies* are essential, and if possible, societies of consumers as well as of producers and distributors. (See FRESH FOOD.)

Vegetables and fruit can be grown on *allotments*, and all waste water should be used to grow them. (See DRAINS (Village).)

Co-operative cold storage for fruit is an essential element of a really successful fruit-growing industry.

Fuel. India is very short of fuel and therefore burns cow-dung. That means less manure for the fields and therefore less food for man and beast. Cow-dung is mainly used to keep things hot. This can be done better by the *haybox*. The main cause of the shortage of fuel is *erosion*. Everyone should grow trees on all waste ground which is capable of growing them. (See WIND EROSION.) But trees will not grow where cattle, sheep and goats graze. Stall-feeding is therefore the only way to get more fuel.

Much fuel is wasted by burning rubbish, grass, weeds and crop wastes. Nothing should be burned in this way that can possibly be used as either fuel or manure.

Fumigation of Seed and Grain Stores. Seal up every ventilator and crack with wet clay and make the store absolutely air-tight. Put braziers inside with sulphur added to the

charcoal. When the room has reached a very high temperature seal up the door and leave it for forty-eight hours. Sweep the store out thoroughly afterwards. This will help to keep your store room from spreading crop diseases, and will prevent weevils from eating your grain. (See GAMMEXANE.)

Future. A child's character is mainly formed in the first six or seven years of its life, that is, while it is almost entirely in its mother's hands. The future of our country therefore is in the hands of the *women* as it is they who bring up the children during these important years. The women therefore must have the best possible training for this all-important national work. (See WOLF CHILDREN, UPBRINGING and DOMESTIC TRAINING.)

Games. (See RECREATION.)

Gammexane. (See D. D. T.)

General Attack. *Raising the standard* of living requires a general attack; that is, every department and organization, every kind of *publicity,* every leader and every official, must all work together and attack every village all the time with as large a *programme* as possible so that there is something for everyone, man, woman and child, and no one, and no village, can say 'we are not interested'.

As the intensity of the attack increases some will begin to dig pits, some will use good *seed*, some will send their girls to school. Every success will be exploited and used both as a jumping-off place for a further attack and as an example for other villages. Success will bring success. People who find one thing useful will be more ready to try another. For instance, those who found *pits* useful will be urged to try some other item and the villages round will be urged to try the pits which their neighbours found useful. Everything will be done by the people themselves, not by Government, so that no one will be able to say: 'We will wait until Government comes and does it here.'

Girl Guides. Every girl should if possible join a Girl Guide Company or a Blue Bird Pack.

The principles of the Blue Birds and the Girl Guides are the same as those of the *Boy Scouts*, but the Guides and Blue Birds learn them and put into practice in the way best suited for girls. They learn self-help and self-reliance. They learn how to be useful and helpful.

Guiding adds a wonderful opportunity for happiness, health and service to the lifeless routine of the starved and neglected girls' schools, and opens the door to a new world for the village girls with their dull, unending round of drudgery, hard work and suffering.

Like Scouting, Guiding is a game and the best girls' game in the world if it is played according to the rules. The rules are the Guide Promise, the Guide Law and Girl Guiding in India and Pakistan.

Goats. They produce cheap and easily digested milk, their flesh is preferred to mutton, and their hair and hides are valuable, while the Angora or Mohair goat, when introduced and acclimatized, will probably provide yet another valuable

industry for the sale and processing of its hair.

The same principles apply to the improvement of goats as to other livestock—proper feeding and keeping, careful selective breeding and control of disease.

At the same time the goat, in India and elsewhere, when not properly looked after, has probably done more to destroy and desiccate the world and produce deserts than all the rest of God's creatures put together, including man! The goat is called the poor man's cow—because the owner never pays for the browsing and mischief done by his goats. If the goat were called the thief's cow it would be nearer the actual truth, and if payment had to be made for what the goat ate and the damage it did it would at once cease to be an economic animal. Goat keeping, therefore, can only be encouraged as an industry or as a means of providing food, if proper arrangements can be made for their fodder so that they shall not destroy the life and livelihood of the rest of mankind. Otherwise stall-fed cattle and buffaloes must provide the milk and ghee, mutton must be popularized as meat, and sheep must provide the hair and hide now obtained from goats.

Gold and Silver. Gold and silver used to be imported into India in great quantities. Between 1890 and 1930 it came in at an average rate of about one crore of rupees worth every week, that is some two thousand crores of rupees left India to buy gold and silver in forty years. Just think of the difference it would have made to the prosperity of India if all this money, instead of being sent out of India to buy gold and silver, had been used to sink wells, plant orchards, improve cattle, and to build and equip workshops and factories!

Government. The object of Government is the promotion of human happiness, the raising of the standard of living. Law and order, impartial justice, well-adjusted and promptly paid taxes are essential to this objective but they are only the preliminaries—the rolling of the ground and the marking of the pitch in order that the great game of human happiness may be played.

Government must not merely create the environment in which happiness is possible, Government itself must provide that happiness.

Conversely, the disturbance of law and order, the spoiling of justice by bribery and false evidence, the evading of taxation are the worst things that a citizen can do as they destroy the possibility of happiness and divert the attention of Government from its real objective.

Government Servants from the highest to the lowest must learn the uplift programme in the fullest detail. No longer must it be possible for a Government servant, however great or however humble, to be ignorant of how a mosquito passes on malaria, or what are the best seeds for the soil of the area in which he is working. Ours is a poor country and cannot afford that its public servants shall be ignorant of the most important things in life and shall not all join together to work for the raising of her standard of living. Every servant of Government therefore must have a full and practical training in

village uplift before he is confirmed in the service. In return of course he must receive a living wage and proper conditions of service.

Grafting, budding and layering, should be taught in every *school*. An extremely interesting and useful little handicraft, enlarging the children's outlook, suppling their fingers, and enabling them to do useful work in their own gardens and orchards, or for other people, for the rest of their lives.

Gram Blight. A disease of gram for which no preventive or cure is yet known. The only way to avoid it is to get the *seed* of a blight-resisting variety from the Government agency.

Gramophone Records. Excellent songs and dialogues can be made about all manner of *uplift* subjects and when made into gramophone records are extremely useful both for instruction and entertainment. They are very handy things to turn on while people are collecting for a *show* or meeting, or to fill in intervals—perhaps the cinema machine breaks down or the microphone gives out—during any kind of meeting. (See RECREATION.)

Grass is a crop and must be treated as such. You do not graze your cattle on your jawar or *cherri* crops, nor must you on your grass crops, unless you have plenty of grass the whole year round for all your cattle.

If all grazing is stopped and all grass is cut and carried to the cattle you will get many times more grass than you do now and far better grass. Grass may be cut for immediate use while it is growing or to make *silage*. It can also be cut for *hay* when it has grown to its full height, but once the seed ripens it begins to fall and is lost to the cattle, and once the grass withers it loses most of its food value. As much as possible should therefore be cut before the seeds are quite ripe and before the grass has withered. Some villages which do this not only have enough grass for all their cattle but are able to sell enough to pay the whole of their land revenue and still have money over!

Grazing. India has one-third of the cattle of the world and one-thirtieth of the pasture-land. All grazing in India is overgrazing, as the quantity of livestock allowed to graze in a pasture is never measured by the amount of *grass* available at the time but by the number of animals requiring to be fed. As long as this happens all pastures are losing *top-soil* and fertility every year; and are therefore producing less and less grass. They therefore have to be grazed harder and harder and are becoming barer and barer and therefore *erosion* gets worse every year.

This is how it happens. Each year the animals nibble the good grasses closer and closer and have to go further afield to find them. The weeds and useless grasses only are left, but in time even they disappear as the starving beasts jostle each other for a living in the increasing desert. Meanwhile they break up the surface of the soil with their sharp hoofs and the wind and the violent monsoon rainstorms falling on the bare land carry the soil away in steadily increasing *floods*. As the cattle deteriorate the owner multiplies them in an effort to maintain his livelihood, and that makes things still worse.

Not only does grazing destroy the good grasses, it destroys the trees. Every seedling is eaten up as it comes out of the ground. This means that

there can be no regeneration of the *forest* and every tree cut or blown down means one tree less until the last tree is gone. (See GRAZING FEES.)

If possible there should be no grazing. All grass should be cut and all cattle *stall-fed*. Erosion would then stop and there would be ample grass, fuel and timber for all. (See COMMON LANDS and COMMON LAND MANAGEMENT.)

Grazing Fees. Until people know how to treat pasture as it should be treated, all GRAZING should stop and all GRASS should be cut and all livestock *stall-fed*. It will take time however to convince the people that they will get as much grass, fuel and timber as they want if only they will stop grazing. Till then and to help to save the pastures, whenever grazing is allowed, grazing fees should be charged both from right-holders as well as from others, by whoever is responsible for the pasture. (See COMMON LAND and COMMON LAND MANAGEMENT.)

And the grazing fees should not be as low as possible but as high as possible, to discourage people sending any but the best animals to graze. Let the fees be spent on the improvement of the pasture, in the purchase of stud bulls, or on any other good object that will help those who keep livestock. If this is done no one can have any grievance against the high rates charged, as the more money a man pays in grazing fees the more benefit he will get from the spending of it.

The total number of animals allowed to graze on the common land pasture should be fixed, not by the number needing food, but by the number the pasture can easily carry without suffering from overgrazing. No right-holder should be allowed to send more animals there than that proportion of this total, to which his share in the common land entitles him.

Groundnuts. A very useful crop both to eat and to sell, for light soil where the rainfall is sufficient. (See DIET.)

Grow More Food. If everything in this book were done there would be food for everyone and some to spare for export. (See IMPORTING FOOD.)

To be sure of growing all the food we possibly can we must take every field of land and ask the following questions:

(i) Is the SOIL stable? (EROSION)

(ii) Is the field smaller than it need be? (Consolidation)

(iii) If not already irrigated can WATER be obtained for it from down below (WELLS), round about (*jheels*, BUNDS, etc.), or from a distance (CANALS and hydro-electrics)?

(iv) Is the best use being made of the existing water supply? (See SAVING WATER, ECONOMIZING OF CANAL WATER, EMBANKING, DRAINS (Village).)

(v) Can more MANURE be got?

(vi) Is the best *seed* possible, of the best crop possible, being cultivated in the best way possible? (See DEVELOPMENT OF LAND, FARMER, FARMING, PESTS, NEW CROPS, LINES, IMPLEMENTS, etc.)

We must also ask ourselves:

(*a*) Are we making the best use of the crops produced? (See STOR-

AGE OF GRAIN, GRAZING, SILOS, HAY, PROTECTIVE FOODS.)

(*b*) Are we wasting any resources (see WASTE), HEALTH, money (see SAVINGS), labour (see BETTER METHODS), etc.?

(*c*) Are we as efficient as we should be? (See CO-OPERATION, FARMER, DEVELOPMENT OF LAND, etc.)

Gully Erosion. As the rain-water runs away down-hill in the fields and pastures it collects in little streams which get bigger and bigger the further they go. They start cutting down into the soil and the more soil and silt they carry and the bigger they get, the deeper and wider they cut. They cut back as well as downwards and sideways. In a few years a gully a few inches deep and wide may be many feet deep and wide and, beginning at the bottom edge of a field, in a few years it may cut the whole field away. These ravines and gullies drain out the subsoil water, as well as destroying the fields and pastures, and they dry up the whole country where they run, so that crops and grass become impossible, the water springs dry up, and even the water in the wells begin to dry up.

Gur. When making *gur*, use the 'Jullundur' furnace or some other improved type. They are far more efficient and use less fuel. The ordinary bullock-driven cane-crushers are usually owned by capitalists and hired to farmers every season at high rates. Why not form a Co-operative Cane Growers' Society, which would buy its own cane-crushers, help with marketing *gur*, getting improved cane for planting, and doing all the other work? With the help of a Co-operative Society an engine-driven 'power-crusher' might be possible; this extracts enough extra *gur* to pay for the cost of the fuel and saves bullock-power, is far quicker and can be used by all the members, and, on payment, by outsiders as well, if there is room for them. And of course plant improved canes.

Happiness. The object of all *Government* and all *uplift* is human happiness. If we get into our heads that law and order or better farming or any other subsidiary aim is our main object we shall soon find ourselves in a narrow groove which leads to stagnation. All these other things are means—albeit very important means—to the end; the end is happiness. We must always keep before us the picture of better homes and better villages to inspire us to whole-hearted efforts to make life more worth living, not for a favoured few but for everyone, even the lowest and the humblest. (See ECONOMIC IMPROVEMENT.)

Happiness does not come from IDLENESS but from HARD WORK. Happiness is not *apathy* or resignation. There cannot be happiness where hunger, dirt, disease and faction are. Happiness comes from knowledge and *education*, from economic independence, good health, and from a full and active life lived in complete harmony and co-operation with each other, with family, village and Government. Happiness in fact is the same thing as a higher *standard of living*.

Hard work never hurt anyone. In fact it is the cure for most of our ills. Hard work earns money, keeps us busy and fit, keeps us from grumbling and quarrelling. Hard work makes us happy. Hard work must be guided by *brains*, and we must work with our neighbours and with our Government. We shall do far more work if we all work together as a team than if we work

separately and sometimes work against each other. (See IDLENESS and HAPPINESS.)

Harrow. Land must be hoed and harrowed whether it is sown or not both in order to get rid of WEEDS and to break the CRUST that forms after rain or irrigation.

If the land is not sown, or the crop has been sown in lines, you can harrow with bullocks and this is much quicker and easier than hand-hoeing. Ask the EXPERT for a harrow. The wooden plough can be used for harrowing but the expert will show you harrows which will do it just as well and much quicker than a wooden plough. Some kinds of harrows can be made in the village.

Hay. Hay is GRASS cut and dried as soon as it has grown to its full height and the seeds are nearly ripe. This is an excellent fodder and is very different from grass which has been left to wither and is cut when most of the seeds have fallen. Withered grass has lost most of its food value. If therefore you are going to be busy ploughing and sowing when your grass has flowered and is ready to cut, and you will not have time to make good hay, you had better cut the grass while it is growing and make SILAGE.

Haybox. (In India and Pakistan the *Bhoosa* Box, as *bhoosa* is easier to get and is just as good as hay.) Will keep things hot for many hours. As India wants all the cow-dung she can get for manure she cannot afford to burn it to keep things hot. Therefore milk and other things which have to be kept hot or take a long time to cook should be put in the *bhoosa* box. The *bhoosa* box is made as follows: Dig a round hole in the ground or make a clay tub, two feet wide and two feet six inches deep or build a brick-and-clay pillar two feet six inches high with a hollow centre two feet wide and two feet six inches deep. Pack the bottom of it six inches deep with *bhoosa*. Bring what you want to cook, or keep hot, to the boil on a fire, put the lid on the pot, take it off the fire and lay it on the *bhoosa*; then pack it in with *bhoosa*. There must be a layer of well-packed *bhoosa* six inches thick below, all round and above the pot. Wrap a cloth round the top of the pot so that no *bhoosa* will get under the lid. That is the essence of a haybox. It will keep things hot for hours.

If you want warm water to wash with in the early morning, heat it up after the evening meal and put it in a *bhoosa* box. It will still be nice and warm in the morning and save you the trouble of getting up half an hour earlier to light a fire and heat the water.

Tips: The fuller the vessel and the bigger the vessel the longer it will keep hot. If you keep on opening it it will soon get cool. Keep a lid on the *bhoosa* box. Instead of having loose *bhoosa* on top use a cushion stuffed with *bhoosa* or cotton. Get special pots made with straight sides so that you need not unpack the *bhoosa* each time but slide the pot into the nest, and have a box for every size of pot you use. By using the *bhoosa* box for making ghee you get more ghee and cleaner ghee. *But* milk may go bad in a *bhoosa* box in the hot weather. This can be avoided by taking it out every two hours or so and boiling it up again. Saw-dust will do instead of *bhoosa*.

Health. The village should be extremely healthy. The strong sun, the good soil, the wind and the rain, should enable us to live very healthy

lives. But many of us are far from healthy. The reason is that we are either ignorant of the foundations of good health and the causes of ill-health, or we are careless in making use of our knowledge of how to keep ourselves and our families fit and well.

There is no magic about good health. It is just a matter of working hard to keep a few simple rules. If you run your eyes down a tabulated list of diseases in a rural dispensary you will find that well over half are caused by *dirt*. Next comes the shutting out of *light and air* from the houses, then *malaria* and its after-effects, and then too little of the *protective foods*. (See MALNUTRITION.) This last is partly ignorance, partly prejudice, and partly bad cooking. The neglect of vaccination and inoculation of course makes things still worse.

Good health depends on: (i) *Light* and *air*. (ii) *Cleanliness*. (iii) Pure *drinking water*. (iv) The right quantity of the right kinds of *food*. (v) *Vaccination* and *inoculation*. (vi) *Mosquito* control. (vii) *Medical Aid*.

Health Centres. Health centres are extremely useful for maternity and infant welfare work. But Health Visitors are not doctors. They require doctors to supplement their work and they cost nearly as much as doctors. In view of the shortage of money it would probably be better that the Health Centre should be in the charge of a lady doctor specially trained in maternity work. She can then do everything herself and does not require another doctor to help her. A great deal of the Health Visitors' work can be done by a trained nurse or welfare worker who would cost far less than either a doctor or a health visitor. Lady doctors should therefore be supplemented and assisted by these rather than by health visitors. In time, of course, as women's welfare work spreads, help will come from Women *Village Guides* and from Co-operative *Women's Institutes* and from the Red Cross and other voluntary helpers. But the main work of *women's welfare* must, as in the case of men, be done by properly paid women's services.

Health and Medical Co-operative Societies. Most necessary in villages where there are no dispensaries. Several villages can join and make one society. They employ a doctor who has a clinic and if possible a resident nurse in each village and he visits them regularly. Members pay a consolidated family subscription plus small fees for home visits, nursing and the cost of medicine. Non-members pay more of course and also pay for clinic attendance but genuine paupers are treated free. The payment of fees even by members ensures that neither the doctor's nor the nurse's time is wasted. It does not increase the cost of medical aid as they are all allowed for in the doctor's agreement with the society and the rates of subscription.

The doctor collects no money from his patients. This saves him from a very difficult job, which would soon get him into trouble. He treats all who come and sends his accounts to the society which knows exactly how much everyone can pay, and who are entitled to free medical aid, and collects both the fees and the cost of nursing and medicines from members as well as non-members. (See DISPENSARY, DISPENSING DOCTOR and MEDICAL FEES.)

Health of Animals. Properly fed and kept animals are less liable to DISEASE than neglected ones. (See MANAGEMENT OF ANIMALS and FEEDING OF ANIMALS.)

Make full use of your veterinary dispensary and veterinary doctor. Remember that many diseases can be prevented by inoculation. Consult your veterinary doctor about this and follow his advice. (See EXPERTS and EPIDEMIC DISEASES OF ANIMALS.)

Health Service. (See MEDICAL and HEALTH SERVICES.)

Higher Education. Boys and girls are both entitled to higher education, but there is no higher or more honourable education for girls than domestic training—the art of civilized life—and for boys than craftsmanship, gardening or farming—the foundations of civilized life. All higher education must include these things and it must be made impossible to get higher education without them.

It is the girl who has learnt to run a home, and the boy who is a skilled craftsman, who should be admired, not the B.A. girl who cannot cook or the B.A. boy who cannot carpenter. Civilization is not built on paper but on the arts and crafts of the home, the workshop and the farm.

Hillmen are usually very poor, under-nourished, diseased and neglected. The stopping of EROSION, which will bring prosperity to the plains below, must also bring a new era of health and prosperity to the hillmen. The renovation of the hillman's life should be a charge on the hydro-electric and the irrigation budgets, as it is they who will gain most by the stopping of erosion.

The hills must not be looked upon as a source of revenue but as a source of canal water, electricity, timber and fuel. As far as possible the land revenue now assessed in the hills must not be collected, but its remission must be used as an incentive to the people to do everything that is needed to restore and improve the hill lands and the hill forests, and to make the hillmen healthy, happy and prosperous. To achieve this the whole life and economy of the hillmen will have to be changed. (See DISLOCATION.) Fortunately a little money goes a long way in the hills. By small subsidies and by conditional remissions of land revenue marginal lands in the hills could be diverted from annual crops to perennial fodders or to fruit and fodder trees, and the whole of the necessary changes in economy introduced. Well-trained workers, men and women, must bring health, education, co-operation and all manner of trades and handicrafts to the hill people. Roads, ropeways, contour paths, machinery, schools and hospitals must make life better and easier. Food must come up from the plains in payment for what the hillmen will learn to provide and he will become a market gardener and a craftsman rather than a subsistence farmer.

Hoe. To get rid of WEEDS, and to break the CRUST that forms after rain or irrigation, fields must be hoed or HARROWED. If the land has no crop or the crop has been sown in lines a harrow pulled by bullocks can be used. But to get the weeds from between the plants in each row you must still use the hoe, and also for crops sown broadcast.

If you squat down and use a short-handled *khurpa,* hoeing will take a very long time. But if you use a long-handled hoe and *stand up to work* you will do it just as well and much quicker. Ask the EXPERT for a model hoe which can be copied by any village smith.

Home. The centre of the country is the home. The *standard of living* of a country is the standard of its

homes. The centre of the home is the *gharwali*, the HOUSEWIFE, or mother. The raising of the standard of living therefore depends on the raising of the standard of the women. No country can go ahead of its women. If we wish our country to go ahead and to raise its standards, then the women must be very carefully trained for this great task. (See DOMESTIC TRAINING.)

If we wish to stop crime, vice, drink and litigation we must have better homes. Who will leave a good home to join in a riot to get drunk or to waste his time and money on litigation?

Home-making Institutes. (See DOMESTIC TRAINING COURSES.)

Hookworm. Hookworm is an even more debilitating disease than malaria; as it lasts much longer, and it is spread solely by the absence of latrines. This disease is a number of worms that live inside us. Their eggs come out with our faeces, hatch out on the ground and the little worms fasten on to the bare feet of passers-by and so return into our bodies to grow up and suck out all our strength, and to send out more eggs to keep the disease going. If latrines are used the eggs will go into the pit with the faeces and be harmless.

Housewife. The housewife or *gharwali* generally works very hard and she keeps her home spick and span, the pots and pans shine like mirrors and stand in orderly rows in her kitchen. What she needs is more knowledge—she has learnt all that her family can teach her from their store of inherited wisdom, but she now wants to know how science and discovery can help her in her difficult job of feeding and clothing and bringing up her family and running her home. She must be given that knowledge. To do so *Domestic Training* must be developed until not one housewife here and there, but every housewife in every village has the chance of learning. The men have their departments for teaching them their job of running farms and looking after cattle. It is even more necessary that the women should have their departments too, to teach them to run homes and look after children in the extremely difficult conditions of our villages.

Ideals. The old pattern of village life has failed—both in good times and bad. A new plan is wanted, based not on material things but on spiritual. The new plan is a better, happier, healthier home and a peaceful, happy, smiling village, a full and happy life. These things will be obtained by the revival of the old-fashioned virtues of hard work, thrift, self-control, self-respect, self-help, mutual help and mutual respect.

'Men shall not live by bread alone' is as true today as when it was first said several thousand years ago. Man needs something more than food or money. The mere increase of wealth will not make people either good, clean, happy or peaceful. Man must have ideals, a spiritual inspiration. The main task of *uplift* is to instil such a longing for a better, fuller, happier, healthier life and such a desire for higher *standards of living* that everyone will do whatever is necessary to obtain and maintain them, instead of having to have them almost forced upon them by Government. We must be so convinced that the new pattern of life is better than the present one that we will work hard, work together, work with Government, will save and scrape, will abandon present extravagances for future security, and will even give

up our besetting sins of gold and silver ornaments, faction and litigation, and extravagant expenditure in social ceremonies. (See HAPPINESS and CONVICTION.)

Idleness. There is not a single day in the year when there is nothing to be done either on the farm or in the workshop or in the home—either to help us to make a better livelihood, or to do a better job of work for the sake of our pride and self-respect, or to make things nicer, healthier and more comfortable in the home and the village.

Idleness does not bring *happiness*. Idle people quarrel and get into all kinds of trouble. Satan is always on the look-out for idle people to do his work for him. So whether for a hobby or for a livelihood, keep busy with some craft or work, in garden, workshop, orchard or farm.

Implements. Whether for farming or for crafts and industries many of our old tools and machines are the best possible. But many more are out of date, they do not do the best work, or they do it so slowly that we lose time and money by using them.

Every farmer and craftsman therefore must be always on the look out for new and better tools and implements. Whenever he hears of one he must go and see it and watch it working. If it looks good he must borrow it and try it out. If it is definitely better than his own he must buy and use it. (See PLOUGH, DRILL, HOE, HARROW.)

By joining a CO-OPERATIVE SOCIETY you can be sure of being able to get the best tools and implements. Many improved implements can be and are being made in villages and towns—a useful SIDELINE for craftsmen,—and all village wood and iron workers must learn to service the new implements, whether they can make them or not.

Importing Food. If all the little things described in this book were done, the increase in crops and in food, particularly in the PROTECTIVE FOODS, would be so great that India would not need to import any food at all. Just imagine the effect of stopping all *erosion*, wasting no *water* or *manure*, using good *seed* and good *implements*, stopping the waste of money on ornaments, social ceremonies, faction and litigation and using the money so saved to sink wells, buy machines and so on. There is any amount more which you will find in this book! The result would be that the produce of the soil of India and of the crafts and industries depending on the soil could probably be multiplied by three!

Improvement. The object of *uplift* is not to improve the villages but to show the villages how they can improve themselves by *self-help* and by helping each other. Uplift aims at inspiring the village with an *incentive* to go on trying to make things better and not to drop back into the old ways the moment the uplifter's back is turned.

Incentive. The village requires an incentive that will not only make it start the work of raising its *standard of living* but will make it keep on trying without continual outside prodding and pushing.

The incentive is the *conviction* in the hearts of the people—and particularly of the women of course as they are in charge of the home and bring up the children—that a better manner of living is not only possible but is so much more desirable than their present manner of living, that it is worth all the hard work, saving

and self-denial necessary to achieve it.

The incentive is kept alive by several institutions inside the village itself:

(i) The Co-operative Women's Institute.

(ii) Co-operative Societies of all kinds.

(iii) The Village School.

(iv) The Statutory Panchayat.

(v) The Village Guides—both the male and the female guides.

(vi) The Boy Scouts and Girl Guides.

The *uplift* movement by bringing the knowledge of better things to every home and housewife must produce the inspiration, the driving force that will keep all these institutions alert and active.

Industries. (See SIDELINES and CO-OPERATIVE SOCIETIES.) There is plenty of skill in the villages, and, properly organized, there is no reason why all manner of goods should not be made in the villages—even for consumption in the towns. This is particularly so for those industries whose raw material is produced in the villages themselves. But cottage and village industries will not survive against mass production unless they are co-operatively organized. Co-operation will give the village craftsman some of the advantages of large-scale production.

Co-operation will do many things for the village craftsman. It will arrange for training and refresher courses for the members, it will send their children to industrial schools, it will arrange conferences and exhibitions and help them to teach and help each other. The society will buy raw material and new machinery and equipment. It will look for new designs and methods, collect orders, market the finished goods, provide money when needed and teach the members to save. It will help the members to keep up the quality of their work and see that it is properly graded, packed and transported. It will help them to work on the factory system, i.e. instead of each member making the whole article each member will do one job or process, passing the work onto the next and so on till it is finished, thereby very greatly increasing their output. There should be a separate society for each separate industry.

Inoculation. You can prevent many diseases by inoculation, including plague, cholera, enteric and diptheria. Consult your nearest doctor and do as he advises. When *plague* appears in the neighbourhood you and your whole village must be inoculated. So also if there is *enteric* in your village. If you and your family are travelling when there is *cholera* about and whenever you go to a big fair you should certainly all be inoculated against cholera before you start.

You can also prevent several *epidemic diseases of cattle* by inoculation. Consult your *Expert*.

Insects. Most insects have a life of four stages. (*a*) The final and perfect insect (imago). (*b*) The egg laid by the perfect insect. (*c*) The caterpillar or grub (larva) which hatches out of the egg. (*d*) The cocoon or chrysalis (pupa) which the grub or caterpillar turns into, and from which the perfect insect hatches.

The insect butterfly, moth, mosquito, fly, whatever it is, is the final form. These mate and lay eggs which hatch into larvae. The larva eats and grows till it is full size and then makes a temporary case or coffin for itself (pupa) either in the ground or in a winding sheet of home-made silk or in a curled up leaf. Here it transforms itself into the perfect insect and waits for the proper season to hatch out and start the whole cycle again.

The whole process may take from a few days to more than a year according to the size and kind of insect. In the case of *mosquitoes* it is only a few days.

All the lovely butterflies, *moths* and dragon flies, go through these stages and so do the *flies*, mosquitoes, *kutra* moths, *pyrilla* and other enemies of man, beast and crop.

The scientific *research* workers carefully study the habits of the bad insects so as to discover the best way of destroying them or of keeping their numbers so low that their own natural enemies, such as birds, will do the rest, or at any rate will keep them from being a nuisance. Some mischievous insects can best be dealt with as eggs (e.g. *locusts*), some as larvae or caterpillars (e.g. mosquitoes), some as full grown insects (*kutra* moth). In each case you must consult the *Expert* and find out the best way of destroying the insects which want to destroy you or your animals or your crops.

Instinct. For men to do all the extra work necessary to raise the *standard of living* is a virtue. For women to do their best for their children and their home is an instinct. Instincts are easier to develop than virtues. So the best value and the quickest results from our efforts will be got by training the women and helping them to make their homes nice and bring up their children well. (See DOMESTIC TRAINING and UPBRINGING.)

It is the women who suffer first and most from the low standards of village life and it is they who will make most use of the *knowledge* of better ways of living.

Interest. Some people think that taking interest is wrong. There are two kinds of interest: (i) Usury paid for money borrowed for unproductive purposes such as weddings or litigation. This may be wrong but it is equally wrong to borrow money for these purposes. Such money earns nothing and so the borrower has no means of paying the interest. (ii) Profit on money borrowed to sink a well or start a workshop. There can be no harm in taking this. The money itself is doing the work and is earning the interest, and the lender is not sucking the blood of the borrower, he is sharing in the reward for the enterprise which his money has enabled the borrower to undertake.

In the same way money lent to Government or put into the Savings Bank or in the Co-operative Bank is put to work and earns a profit which there can be no harm in taking. (See CREDIT, MONEY, and MONEYLENDER.)

Karah. A scoop made of wood and iron for making TERRACES and field-banks. It is pulled by bullocks and is far quicker than carrying the earth on donkeys or on your head. If it is not used in your neighbourhood ask the EXPERT for a sample so that you can have it copied in your village. A *karah* costs very little. It is several feet wide, the bullocks pull it along while the farmer holds and steadies it behind. It

collects a small mound of earth in front of it as it goes along, and when the farmer reaches the right spot, he lets go the scoop and leaves the earth just where he wants it. A field can be levelled or a low bund or field-bank built in a very short time with the help of these scoops.

Knitting. Every girl should learn to knit and darn and even boys and soldiers would take no harm if they too could make and mend their own socks and stockings!

Excellent knitting needles can be made in the villages from bamboos both for home use and for sale as well.

A knitting machine costs a bit of money but it is nearly as useful as a sewing machine. Many pairs of socks can be made in a day on a knitting machine and it is not hard to learn to use it. A useful sideline for men as well as women in their spare time.

Knowledge is the mainspring of action and the basis of leadership. But knowledge must not be the monopoly of a few. Every man, woman and child in every village and hamlet must know what is wrong and how it can be put right.

Kutra. The yellow-tail moth. (See INSECTS.) At the beginning of the monsoon a white moth with a yellow tail hatches out of the ground. This is the *kutra* moth and in bad years these moths look like snowflakes as they drift with the wind in the evening. These moths then lay their eggs. Little brown woolly caterpillars hatch out of the eggs and eat up every green thing as it comes out of the ground, particularly *jawar*, *bajra* and *san* hemp.

When full grown, about an inch and a half long, they run all over the place and disappear underground, where each one turns into a chrysalis (pupa) and waits till next year, when it hatches into a *kutra* moth and starts all over again.

Plenty of ploughing, especially with furrow turning ploughs, will turn them up for the birds to eat. The best way to destroy them is with *light-traps*.

Labour-saving. Hard-working men and women use what are called 'labour-saving' devices. A sewing machine is one, a chaff-cutter is another. A sewing machine does far more work than can be done with the fingers and a chaff-cutter works quicker than a man or a woman with a chopper. But labour-saving is very different from labour-dodging. Many men do not plough out the corners of their fields. They do not *weed* their fields or dig their *pits*. Many people throw rubbish onto the edge of the pit instead of right into the pit. Many people do bad work—they say 'that will do' or 'no one will see'. This is labour-dodging and it is a sin against God and man. The old proverb says, 'What is worth doing at all is worth doing well'. A sacred book nearly two thousand years old says, 'Whatsoever ye do, do all to the Glory of God'. (See CRAFTSMANSHIP and PRIDE.)

Lac. Prices are now so low that except as a subsidiary occupation for people with time on their hands there is little profit in lac. The Agricultural Department teaches how the

wild plum trees (*ber*) are 'inoculated' and how the crop is collected. Marketing should of course be done co-operatively.

Lady Doctors. Women are even more entitled to medical aid than men are, as they have to bear and bring up the children. They require lady doctors but unfortunately all the money has gone to the men and it is very hard to find money for lady doctors and women's hospitals and maternity services in the villages. In fact, the women are expected to get much of their medical and maternity help from charity and subscriptions. This is utterly wrong and very cruel. Much more public money must go to women's services and if necessary it must be the man's hospital—not the women's—which depends on charity. It is just as necessary, even more necessary, to have a lady doctor at the rural dispensary than a male. When a lady doctor is not possible there should at least be a female attendant, nurse, nurse-*dai* or compounder to help the women and in whom they can confide. At all costs and at all sacrifices the women must have proper attention for themselves and their little children. (See WOMEN'S WELFARE.)

Lambardars. Lambardars must learn the uplift programme and live the new life in their homes and on their farms.

The village head or lambardar's office is hereditary. As a result he very often is indebted and illiterate and therefore of little influence and of no use in the work of improving the village. He can be removed for gross incapability and his heir can be rejected for the same reason. Has not the time come for making illiteracy a ground for refusing to appoint a man as lambardar? After all, in the modern world an illiterate man is often incapable of carrying out the simplest public duties. He cannot be sent instructions by post; he cannot read or explain a notice or an order, and he cannot make a report by post. To avoid harshness the law could introduce the change by easy stages. It could say that after a certain date, say five years hence, any one under fifteen years of age on that date would have to pass the middle examination if he wished to remain, or to be appointed, lambardar. For those between fifteen and twenty on that date a fair literacy test would be prescribed. That would give every boy ample chance to go to school and get the necessary education while causing no hardship to those whose school days were over.

Land. The greatest national asset of an agricultural country is its land. Land is a sacred trust and its owners and cultivators have two absolute duties towards God and their fellowmen:

(i) To hand it on to their children in as good, and if possible in better condition, than they received from their fathers.

(ii) To make the best possible use of it for themselves and their fellowmen.

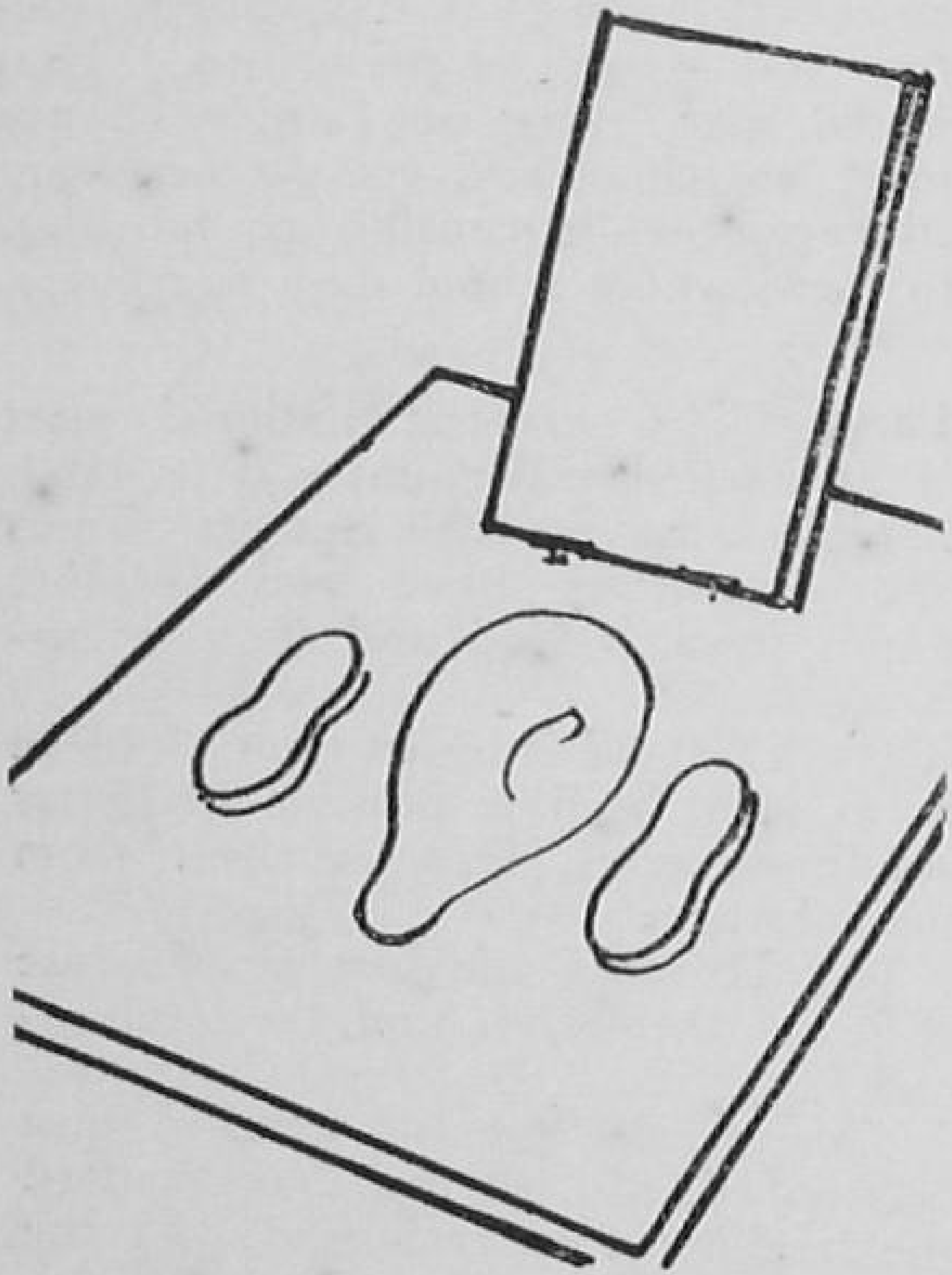
This means that (*a*) *erosion* must be stopped, and where it has occurred the land must be *reclaimed*, (*b*) the fertility of the *soil* must be maintained and if possible increased, (*c*) the land must be DEVELOPED to the maximum possible, (*d*) and FARMED in the best way possible.

No State can allow its land to be wasted and destroyed. If landowners neglect their land the State must compel them to attend to it properly and in the last resort must intervene and do it itself, either

acquiring the land to do so or recovering the cost from the landowner.

To secure the proper use of land legislation is necessary. A beginning has been made with the Forest Act, and, in the pre-partitioned Punjab, with the Land Reclamation (*Chos*) Act, and the Land Conservation Act.

Latrines. Absolutely essential in town and village alike, both for health, decency and self-respect, particularly of the women of course, and for the training of the young. *Hookworm* which takes the whole life out



of its victims is spread solely by the absence of latrines.

Latrines must be 'self-serving', that is, they must require no special cleaning. They must keep themselves clean when used by those who have learnt to use them. There are two kinds for villages, (i) the Septic Tank kind, for those with fairly large compounds and who know how to work them. They cost a little money but once made they are the best of all. (ii) The pit or bore-hole latrine. The pit latrine is eight or nine feet deep and several feet wide and can be made any length required and have one or more squats with screens between them for privacy. The bore has only one squat. They both have a floor on top and an oblong hole in the floor with a lid to lie on top of it, and a screen all round. These are both excellent latrines and need no servicing. When nearly full they should be filled with earth and the floor and screen removed to another pit or bore. When the contents have rotted they become a harmless soil with no smell at all and can be dug out and used as manure. If you don't like doing that leave it where it is and plant a fruit tree on it!

If your compound is big enough by all means have a pit or bore-hole latrine in it but you must not have one within fifty feet of a well or hand-pump either in your own or someone else's courtyard.

For all other public latrines—men's and women's separate of course—must be made outside the circular road that runs round the village. (See ABADI.)

All schools and colleges must have them—and they must be of the types prescribed for the villages—so that the young may be brought up to the latrine habit.

Leadership. Without leaders it is very difficult to raise the *standard of living*. Leaders must lead uphill not downhill. The leader of a band of dacoits is undoubtedly a leader but he is leading downhill, and we want leaders to lead uphill from poverty, debt and ill-health to good health, *happiness* and prosperity. Leadership consists of *knowledge*, courage and *example*. Those who wish to lead must lose no opportunity of learning how to make the home

and village better. (See TRAINING and PROGRAMME.) Having learnt they must have the courage to set an example of the new life by living it themselves.

One of the main objects of *education* should be to develop leadership.

Leprosy. Leprosy is a disease of low standards of living—dirt, underfeeding, ill-health, dark houses, overcrowding, insanitation, etc. At present lepers are treated as outcastes with the result that they conceal their disease as long as they can—and by doing so often pass it on to their children. When they cannot do so any longer and have to leave their homes and society they become beggars and infest fairs, railway stations, bazaars, and other crowded places.

This horrible treatment of lepers is due to ignorance of the facts of leprosy. Here they are. Leprosy is not hereditary, but at some stages or in some forms it is infectious, but by no means always. During the infectious stage it is passed on to others by contact, and children are very liable to catch it, in fact most lepers caught their leprosy in childhood. Leprosy can often be cured, or if not cured, at least stopped from getting worse. These facts show that our present behaviour towards lepers is the exact opposite of what it should be and ensures that the disease shall be passed on from generation to generation. We should do everything possible to get lepers out of their families at the earliest moment possible in order to save their children from the disease, we should put them under treatment as quickly as possible and keep them away from other people and from places frequented by other people. But all this must be done by kindness and not by cruelty and we must always remember that the leper is not an out-caste or a criminal but a fellowman doomed—for no fault of his—to endure a most terrible disease—and we must treat him as we would hope to be ourselves treated if we had to endure the same misfortune.

Leprosy Treatment. Lepers must be treated as human beings and brothers. They must live apart from their own children or from the rest of us, unless the doctor certifies that they are not infectious, and even then they must be examined by the doctor from time to time. But they must not merely be turned out of our homes and left to look after themselves. They must be provided with special colonies, homes or settlements to live in, and in those places they must be made so happy that instead of concealing their terrible disease they will gladly show it to the doctor and go to live there.

How can the lepers be made happy in their colonies and settlements?

(i) They must be looked after and helped and medically treated by people who have the love of God in their hearts and will serve these people for His sake and not merely for gain. In this respect the Christian Missionaries and Toc H have been very successful.

(ii) They must be encouraged to trust in God and worship Him.

(iii) They must be given hope and confidence. All other diseases from which they are suffering—*malaria, hookworm,* etc.,—must be thoroughly cured and they must be kept as fit as possible in mind and body. The cure of *leprosy* is long and painful and unless the patient is kept fit and happy and hopeful he will never stand it and it will do him no good. Given these things there is a good chance of at least stopping it getting any worse and in many cases of actually curing it.

(iv) They must be kept busy and made to feel that they still have a useful life to live and their life must be as normal and natural as possible.

(*a*) They must be taught as much farming, gardening and handicrafts as they are fit for and must as far as possible be self-supporting.

(*b*) They must have books, newspapers and radio and they must have their own games and recreations, concerts and drama, and must in every possible way be enabled and encouraged to live as ordinary human beings.

(v) (*a*) Their families must be as near to them as the doctors consider safe and right, but (*b*) their children must be separated at birth from whichever parent is suffering from leprosy and they must be carefully watched by the doctor, but they must be educated and trained and given all the joys and pleasures of ordinary children, and helped to forget that they ever were in danger of having this terrible disease. Leprosy is not hereditary and therefore, if kept apart from whichever parent is suffering from leprosy, the children of lepers need never catch it.

All this means organization and money. But it is well worth while, because thereby we can most certainly get rid of one of the foulest diseases in the world. When there are so many diseases which we are never likely to get rid of altogether, why not get rid of one of those we can?

(See B.E.L.R.A.) The Christian churches in India usually devote their church services on one Sunday each year to leper work and the money collected at the services is sent to their Leper Missions. One way of helping is to 'adopt' a leper in a settlement. The club, school, unit, or whatever person or society adopts a leper, pays for the cost of their keep and treatment and, by means of letter-writing, takes an interest in them.

Library. (See READING ROOM.)

Light and Air are foods, and are just as necessary for good health as any other kind of food. Every room in every house should therefore be full of light and air. There must be enough light to see even a flea in every corner of the room. The way to get light and air is to put in *ventilators*. *Rats* love darkness—and also eat grain and may bring *plague*—and so do many other insects and germs that will destroy your health. If your homes are full of light you will have far fewer of these evil guests. If they do come you will see them and be able to kill them or hunt them out.

Dark airless rooms encourage *tuberculosis*, cerebro-spinal meningitis and other diseases, and living in dark airless rooms lowers your vitality and makes you more likely to pick up every other disease, particularly of course pneumonia.

Don't share a room with cattle. They may make it very warm but they will use up all the air and make it still more unhealthy both for themselves and for you. The cure for cold is warm clothes; spin and weave the *wool* of your sheep. If you are afraid of thieves don't buy *gold* and *silver* ornaments, put your money into the *Savings Bank*.

The law of light and air and ventilation is not a law of man, it is the law of nature. If you break it you will be punished with disease and ill-health and there is no appeal.

Light Ambulance. A light ambulance on bicycle wheels has been designed on which people can be very easily taken to the hospital or dispensary. Every panchayat should

have one. Co-operative Societies might also keep them and so might Boy Scout troops. Perhaps the Red Cross could help to distribute these light ambulances.

Light-trap. Moths fly to lamps. If the caterpillars of a moth such as *KUTRA* (the yellow-tail moth) destroy your crops, be ready next year with light-traps. To make light-traps build mounds of earth two feet high every hundred yards or so. As soon as the monsoon rains moisten the ground enough for the white moths to hatch, place a broad dish full of water on each mound and add a spoonful of oil. In the water place a brick, on the brick a hurricane lantern. Light the lanterns every evening. For moths which hatch at other seasons set your light-traps as soon as you see the first moth.

The moths will fly into the lamp and drop into the water. The oil will prevent them getting out and your crops will be saved. Change the water each morning and go on doing this till there are no more left of the moths whose caterpillars destroy your crops.

A good job for *Boy Scouts* and schoolboys.

Lines. Cotton, cane and many other crops should be sown in lines. It makes HOEING, HARROWING, and WEEDING easier; light and air get to the plants better, and seed is saved and a better stand of crops can be got. Crops that have been sown in lines can be ridged up; this helps the crops and SAVES WATER. The Expert will tell you which crops to sow in lines and will tell you about DRILLS to sow them with, and *harrows* to weed them with.

Literacy is not an end in itself. Literacy is a by-product of education, which should aim at preparing boys and girls for life. People will soon learn to read if they really want to, and to make them want to, we must see that there is such interesting stuff for them to read, that they cannot help trying to learn. A really good weekly village newspaper must be published and really well-written stuff about farming and all the other things villagers—men, women and children—do, or might do or might be interested in. There must be a steady flow of really well-written books upon all subjects of interest to villagers of all ages, both male and female.

A literacy campaign must start with:

(i) Stirring up the people to want a higher standard of living.

(ii) Producing literature that will show them how to achieve that high standard.

(iii) Producing reading material of real interest to all kinds of people, men, women and children.

A literacy campaign that merely urges people to learn to read and write without first producing a solid reason for learning is bound to fail.

It is a general complaint that schoolboys soon forget the reading and writing they learnt at school. They never would forget if there was such interesting stuff to read that they could not resist the temptation to read after they left school.

Nor would they be allowed to forget, if their mothers and sisters had also learnt!

Litigation. Is it a national sport or one of our principal industries? If it is a sport it is one in which neither sides win. If it is an industry it is the most unproductive industry we have. It uses up our time and our brains and our energy and gives no

return except more strife and more trouble. Litigation divides the village and prevents it working together to improve conditions of living. Litigation corrupts village life and corrupts the servants of Government. Litigation wastes enormous quantities of money which should be ploughed back into orchards, wells, bunds, bees, poultry, workshops, education, medical aid and all manner of other ways of making life and livelihood better.

If three-quarters of the lawyers were doctors, research workers, teachers or industrial and agricultural experts, our country would be far happier and richer. It is not the lawyers' fault. When a young man chooses his profession he has to choose the one in which he is most likely to be able to make a living. As long as a country makes litigation its chief sport or industry so long will the best brains go into law and not into the constructive and creative professions, such as agriculture, research and medicine.

Litigation is caused by *faction* and is kept going by *bribery* and false evidence. All four must be abolished if we wish to live in peace and *happiness.*

Livestock. Cattle, sheep, goats, poultry, bees, etc. A man's wealth used to be measured by the number of animals he kept. In those days man and his animals were limited and GRAZING was unlimited. Now it is the opposite. Man and his animals are unlimited, grazing is not only limited but is getting less and less every year as man and his unlimited animals steadily destroy it. (See CLOSURE.)

Today therefore wealth must be measured not by the quantity but by the *quality* of the animals we keep. A few good animals are worth many bad ones. Only the best animals are a source of wealth. All the rest cost more than they produce and are a source of poverty. (See ANIMAL HUSBANDRY.)

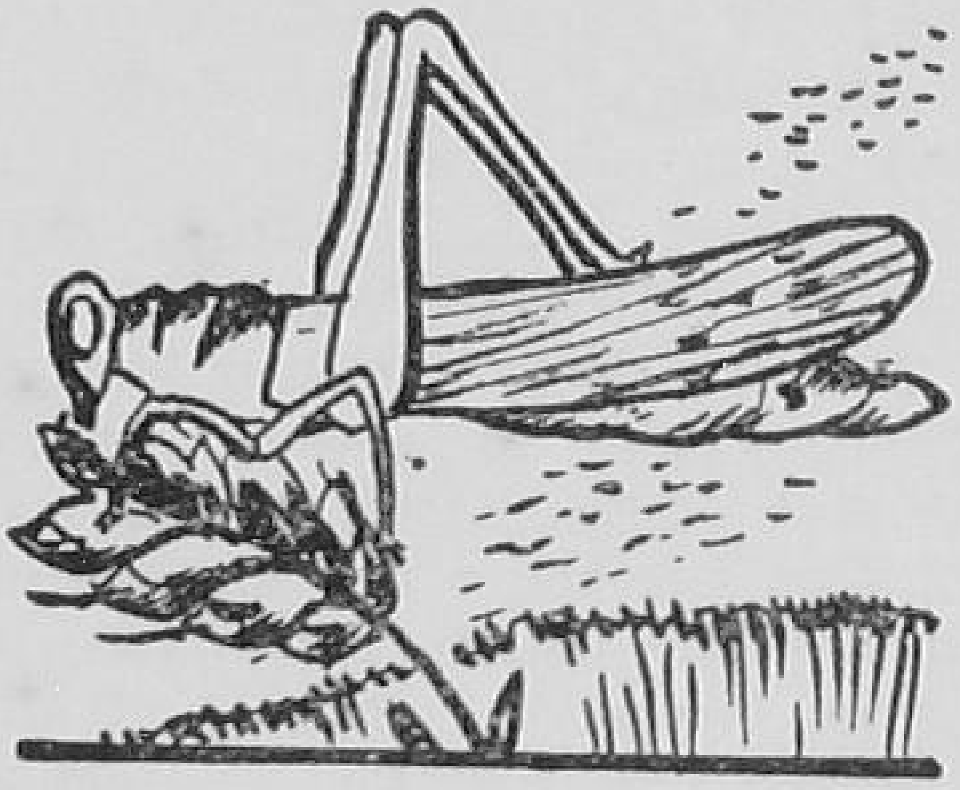
Living Wage. (See CONDITIONS OF WORK.)

Locusts eat everything green and must be vigorously attacked on every possible occasion. Locusts are sluggish and easy to kill particularly:

(i) In cold or damp weather particularly at night and in the early morning.

(ii) When mating and laying their eggs.

They can be crushed and killed with rollers, ploughs, harrows, wooden



beaters or by trampling on them. This will destroy millions. After mating the female locust digs down and lays her eggs below the surface of the ground in sandy soil. If an anna or so a pound is paid for digging them out to be burnt, many more millions will be destroyed. Children are very good at digging out eggs.

(iii) When the eggs hatch out the young locusts, called hoppers, start marching in a broad solid column. These hoppers must be crushed every day and all day till at last after many weeks the last remnants get their wings and fly. The birds will go on with the good work and if you have

done the job properly the swarm may not survive till the next breeding season. The hoppers can sometimes be burnt or poisoned but the easiest way is to dig a trench and guide them into it with galvanized iron sheets and then crush them. When they change direction a new trench must be dug and so on.

Locusts are a terrible pest and *locust control* requires a very complete organization to deal with them. If the work is not well organized the locusts will multiply at their ease and do infinite harm.

Locust Control. (i) At all times *locusts* should be attacked when they settle. It is no use each man waiting till they attack his own fields. One man can do nothing by himself. Everyone for miles around must join in.

(ii) When their breeding season is at hand locusts must be watched like enemy aeroplanes and the movements of each swarm reported and followed. As soon as they settle down to mate and lay their eggs the whole countryside must be turned out day after day, first to crush the locusts, then to dig out their eggs, and then to crush the hoppers when they hatch. All this requires a very complete organization but it is the only way to save the crops and trees, and prevent the nuisance continuing season after season.

Killing hoppers could, I believe, be done best by machinery. I have often suggested this but have never been able to get it tried out. A small pit would be dug ahead of the moving swarm and the swarm narrowed down with sheets of galvanized iron so that the locusts would fall into the pit as they advanced. The widened mouth of an armoured hosepipe would be sunk into the pit and the pipe would run fifty yards or more to one side. There an engine with a vacuum-pump would suck up all the locusts as they fall into the megaphone-shaped mouth of the pipe. They would then be driven through a mangle by the same engine. An enormous vacuum-cleaner in fact.

Machinery. A pair of bullocks is the village unit of *power* for all purposes. Bullocks lift water, grind corn, crush oil and sugar-cane, cut chaff and mill rice. At present each job the bullocks do has its own 'capstan' which the bullocks go round and round to work the machine, and these capstans have to be rough and inefficient. Surely we should have one really well-made capstan, roller or ball-bearing, by which bullocks could work every machine on the farm. The machines would be fixed all round the capstan and whatever machine was wanted would be connected to it by a belt or whatever was found to be best. Bullocks might even make electric light! (See THRESHING.)

For those with more land, and therefore more work for their machinery, an oil-engine would be good value with a special gearing or belt to attach it to a variety of machines to do all the many jobs of the farm.

Manure. In England we say muck or manure is the mother of money. Manure makes all the difference between an ordinary crop and a good one. Well-manured land holds more water than un-manured. (i) The first and best manure is the dung and urine of the cattle and the rubbish and sweepings of house and village and the crop wastes and weeds of the farm. This must all be collected in PITS and none of it must be wasted or burnt. (See COW-DUNG, FOLDING, COMPOST and TRENCHING.) The same DIRT which produces FLIES and

disease in the village produces bumper crops in the fields.

Manure must not be put raw onto the land. Plants cannot make use of raw manure and in rotting it uses up water and air which the crops want and so does harm instead of good. Raw manure will also attract white ants. It must stay in the pit until it is well rotted. Manure should be ploughed into the soil as soon as possible after it has been spread, as it loses value in the sun and the air.

(ii) Green manuring. Consult the EXPERT. *Gawar* and *San* Hemp are the commonest kinds.

(iii) Artificial manures. These are no good unless you also use as much as you can possibly get of the first two. Consult the expert here too. (See TRENCHING.)

In a country that is starving for manure nothing must be burnt that can possibly be used as manure. Cow-dung must never be burnt. To keep things hot, use a HAYBOX. Incinerators must never be used, whether by the Army or any other department or person. To use an incinerator and burn potential manure in the name of public health is bad sanitation in a country suffering from malnutrition.

Malaria requires organization. During the mosquito season the following things must be done. (i) There must be no pools, puddles or standing water. If depressions that hold water cannot be filled up or drained (see TIDYING UP THE VILLAGE) they must be oiled or sprayed with Paris green, D.D.T., Gammexane. Even a broken pot may hold enough water to breed mosquitoes. The housewife must empty all her pots once a week. (ii) The banks of ponds and water-channels must be straight, clean and free of weeds, grass and puddles. (iii) If possible keep larva-eating *fish.* (iv) Everyone, man, woman and child must sleep under mosquito *nets.* They are necessities, not luxuries and can be made cheaply by co-operative weaving societies. Mosquitoes prefer children but will bite everyone. (v) *Quinine* must be stocked. It is far more important than salt or spices in the malaria season and must be bought and kept by the housewife just as she does her other stores. The dose is ten grains a day for men, five or six for women and one or two for children. One dose of fever at harvest time or sowing time costs more than quinine and mosquito nets for a whole family. (vi) Mosquitoes (see ANOPHELES) must be caught every day; stir up the curtains and the likely places and catch them with soapy hands. Make it a child's game and reward with sweets. Use Flit if you can afford it. Better still, use D.D.T. or Gammexane.

Malignant Sore Throat or Haemorrhagic Septicaemia: an epidemic disease of cattle. Usually occurs after the rains among animals which have been grazing over swampy or irrigated land. The symptoms are fever and a soft swelling round the throat. Whenever this disease breaks out get your cattle inoculated and if your village is liable to this disease get it done every year before the monsoon and the winter rains.

Malnutrition. Malnutrition is caused by eating insufficient food or not eating food of the right kind. Even well-to-do people suffer from malnutrition if they do not eat enough of the PROTECTIVE FOODS. (See DIET.) People who eat a lot of polished rice, white *flour* or sweets often suffer from malnutrition. Malnutrition can spoil

the eye-sight, the teeth, the bones and produce such diseases as scurvy and beriberi. It is most important to eat the right kind of food. Very often the best food is cheaper than food which does us no good.

Management of Animals. Animals must be treated as carefully as we treat our children. They must be properly housed, (see STABLES), properly fed, (see FEEDING OF ANIMALS), and their health properly looked after (see HEALTH OF ANIMALS). They must have regular DAYS OF REST. If you work them all day and every day they will wear out much quicker and will do less work even when they are in use. Well-kept animals work better and live longer than neglected animals. When an animal gets too old to do full work you either have to buy another or you have to have a young one ready to take over the work. In either case the replacement of the worn-out animals costs a lot of money. The longer therefore that an animal will do full work the cheaper and the more profitable it is for you. But animals will only live long and work well if they are properly fed and properly looked after.

Markets. Every farmer or rural craftsman must keep in touch with the markets. It is no use growing or making things which you cannot sell or can only sell at a price at which it does not pay to grow or make them. It is no use making things of shapes and designs which went out of fashion last year, nor is it any use growing crops a year behind the market. Because prices were good this year, it does not follow they will be good next year.

Those who live in the neighbourhood of *towns* must study the needs of the townsman and try to supply them. The towns want many things

the village craftsman can make and they have never enough of what are

called the preventive foods, fresh fruit, vegetables, eggs, milk and milk products.

But there are two questions. First, how are we to market our crops and our wares? It is no use every farmer bicycling into market with two cans of milk or each craftsman taking his wares to town on his head. This wastes time in the first place, which could be better spent in weeding or making compost or in making more wares, and in the second place it puts the producer at the mercy of the distributor or middleman.

Secondly, how can every farmer or craftsman spend his time studying markets?

The answer to both questions is that we must make Co-operative Societies to help us. Both marketing and the studying of markets are the jobs of the Co-operative Marketing Society and every farmer and craftsman must be a member of one. The Co-operative Marketing Society studies the markets all the time and suggests new wares, new designs, new methods and new crops. It is able to sell at the right time and to bargain for the best prices possible. It carries the goods to market and it sees that everything sent to market is of the proper quality, and is packed and prepared in the most attractive way possible.

Marriages. The most important contract any man or woman can make and it must be properly recorded in a proper register and properly witnessed, so that forever afterwards it may be possible to prove with ease and certainty that the marriage actually took place.

This is necessary both in the interests of the women and to prevent much of the trouble and litigation caused by the impossibility of proving marriages.

In most provinces this simple and very necessary reform will require legislation.

Maternity Aid. Maternity is not a disease or an accident, it is a duty and the women are just as entitled to proper medical attention at childbirth as soldiers are on the battlefield. All the *midwives* must be trained and licensed and it must be illegal for untrained midwives to practise. They must have regular yearly refresher courses and they must be regularly inspected by a touring lady doctor and if they fall behind the accepted standard their licences must be cancelled.

In every rural *dispensary* there must be a *lady doctor* as well as a male doctor and as soon as possible she must be duplicated so that one can always be touring and looking after the maternity work. There must also be maternity wards and special maternity hospitals, so that the women can be encouraged, when advisable to come where they will have full attention. This sounds very expensive but it cannot be helped. One woman in ten dies in childbirth, many babies die and the sorrow and suffering connected with child-birth is beyond all belief.

To help pay for maternity aid it should be the universal rule that at every wedding a subscription should be paid to the women's dispensary or maternity home, and the rejoicings at the birth of every child and on every other social occasion should include a similar subscription.

Medical Aid. (See EXPERT.) Your *taxes* help to pay for doctors and *dispensaries*, so make full use of them. Don't wait till you or any of your family are nearly dead, take them to the doctor as soon as they are ill. Many diseases can be cured if tackled at once but if left they

neither kill you or leave you permanently damaged. In particular children's *eyes* and teeth should be examined the moment you suspect there is anything wrong. Don't call quacks, consult a trained doctor. Finally, don't ask for free doctors and free medicines, pay as much as you can afford. You are not mean, you spend plenty of money on weddings and other social ceremonies, even on ornaments and litigation. Spend also on doctors and medicines so that with your money more and more doctors and hospitals may be established till there are doctors and hospitals for everyone. (See MEDICAL FEES.) Co-operative *health and medical aid societies* will help to spread good health and to bring doctors nearer to every village and hamlet. (See LADY DOCTORS.)

Medical and Health Services. The Medical Service and the Health Service should work very closely together—probably as branches of one joint service. From Government Headquarters down to the village, the Health and Medical Services must be closely co-ordinated and must work in complete harmony and co-operation. At present doctors often regard themselves as not responsible for preventing disease but only for curing it. This is as if an Engineer Service was responsible for mending leaks in canal banks but not for preventing leaks from starting!

Hitherto far more money and attention has been devoted to curing than to preventing disease—partly because the prevention of disease and the promotion and maintenance of good health is rather a modern idea. As an actual matter of fact it costs far less money to prevent disease than it does to cure people when once they fall ill.

Both services are necessary but they must work together and help each other. The doctor must forever be pointing out why his patients get ill—dirt, lack of light and air, the prejudice against growing vegetables and so on—and the Health Officer should carry panniers of simple remedies and medicines on his rounds.

In the districts Health and Medical Services must be combined. There must be one service not two. Inspecting doctors going from dispensary to dispensary must no longer be indifferent to the health of the villages in between. They and the dispensary doctors must be Health Officers as well. *Ambulances* should be freely used to bring the more serious cases from the villages and from rural dispensaries to central hospitals, leaving the rural dispensaries rather as collecting centres and first aid centres. Perhaps the *Red Cross* could organize these motor ambulances.

The doctors in charge of central hospitals and clinics will probably confine themselves to medical work, except of course that they will always be trying to find out from their patients which simple rules of health they have been neglecting. The touring doctors however will be mainly concerned with the prevention of disease and the rural dispensary doctors will also be the Health Officers of the areas served by their dispensaries.

Medical Fees. At present it is regarded as more honourable to receive free medical aid than to pay for it. That is probably because Government servants get their doctors free, and it is everyone's ambition to be a Government servant! Free medical aid should be confined to genuine paupers and it should be regarded as more honourable to pay fees than to get free attendance from the doctor. Medicines, including

quinine, should also be paid for.

Doctors are paid for out of taxes and so the people consider they are entitled to free service. This argument would be right and logical if the taxes were high enough to pay for enough doctors for all. But there is not enough money for a quarter of the doctors wanted even for the men, and the women have practically no doctors at all. The fortunate people therefore who have doctors must pay for them and for their medicines so that more and more doctors and dispensaries may be established in the villages, particularly for the women.

Where Panchayats or co-operative societies or any other local committees employ doctors, the doctor should send his bills to them and they should collect all the money for fees and medicines, keeping their share and handing to the doctor his share according to the terms of his agreement. This saves the doctor from a very troublesome job and the local committee knows best who can and who cannot pay and how much each can afford.

Medical Inspection of school children. Most necessary; many defects can be corrected in childhood but it is too late when the children grow up. The parents must pay for it; unless they are genuine paupers; a few annas a year for each child is enough to pay the cost. (See FREE ISSUES.) Besides the inspection there must be the 'follow-up'; the doctor's instructions must be carried out. The *panchayat,* the *co-operative society,* the *village schoolmaster* must all take a hand in this follow-up work and must prevent careless parents from handicapping their children for life by neglecting to do what is found necessary by the inspection. There must be occulists too and dentists, to look after the eyes and the teeth, and spectacles if ordered must be obtained and paid for. The *Red Cross* perhaps could organize the whole business.

Medico-Legal Work. Rural doctors spend much time in the law courts giving evidence about injuries caused in fights and quarrels. Either the honest patients have to go without doctors or extra doctors have to be appointed. This uses up the money for doctors and means that fewer villages can have doctors, and there is still less money for lady doctors.

All this is quite wrong. If the men want to fight among themselves they should be made to pay for it. Everyone who wants medico-legal evidence for his quarrels should be made to pay enough for it to provide the whole cost of the extra doctors needed without calling upon the public funds at all.

Where possible, there should be special doctors for medico-legal work, paid for by the fees of those who want it. Where this is impossible and the rural dispensary doctor has to give evidence in court, a special doctor should be sent out to replace him while he is away and this special service should be paid for entirely by the fees of those who want medico-legal evidence.

Menials. The position of the menial or scheduled caste man is improving —more slowly in some parts than in others—and in time he will take his proper place in human society. Meanwhile he must do his work honestly and well—what is worth doing at all is worth doing well—knowing that this is his best hope of progress and that his future prosperity is bound up with the prosperity of the village. If his task is to keep the village clean, his village must be the pride of the neighbourhood; and if he makes

shoes and leather goods they must be the best that skill and good leather can make. He will at least deserve success.

The higher castes must remember with humility that, but for these people, they would be naked and shoeless, they would be without houses and without much of their food. The higher castes must also remember that before God all men are equal, and it is their duty to break down as fast as they can the age-old conservatism of the people, to get rid of all caste pride and all untouchability, and to make up for the centuries of wrong done to the scheduled castes by doing everything possible to promote their health, education and welfare.

Midday Meal. Half-starved children cannot learn anything and it is waste of time trying to teach them. Children leave home very early and often without a big meal inside them. Unless they can go home at midday they must bring to school with them a really good meal and their parents must be urged to provide it. If they will not do so, except for reasons of poverty, then

their children must be excluded from the school. In those cases where parents cannot provide a good midday meal for their children the school must do so.

The children must always be allowed to eat the vegetables in the school garden. Sprouted pulses and grain are particularly good and cheap food.

It is not difficult to make a good and very cheap meal for the children to bring with them, from whole-meal flour, *lassi*, pulses and vegetables.

Midwives. Just as you get a trained doctor when you break your leg so your wife must have a trained midwife, and if necessary a doctor too, when she has a baby. One woman in ten dies at child-birth because the midwives are dirty and untrained. All midwives must be trained. Your village *Panchayat* and your *Better Living Co-operative Society* must arrange for this and you must boycott the untrained ones till they agree to go and get trained. When they are trained pay them a proper fee, and pay the same fee whether it is a boy or girl that is born. It is not the midwife's fault if you and your wife can only produce girls. (See MATERNITY AID.)

Milk. (See DAIRY.) The best and most complete and perfect food we have, particularly for children. But India has less of it than almost any other country, because she has more cattle than any other country and there is not enough food for them all. The milk she has got is often diluted with water and far from clean.

Milk must be clean, otherwise it is the most dangerous food possible, as disease germs multiply in milk much quicker than anywhere else. The udders and teats of cows and goats must therefore be cleaned before milking, the cowman must wear clean clothes and carefully wash his hands before he starts milking, and every vessel must be carefully washed with boiling water every time it is used for milk. If you are not quite sure that your milk is perfectly clean and has come straight from a healthy cow, then you must boil it, for five

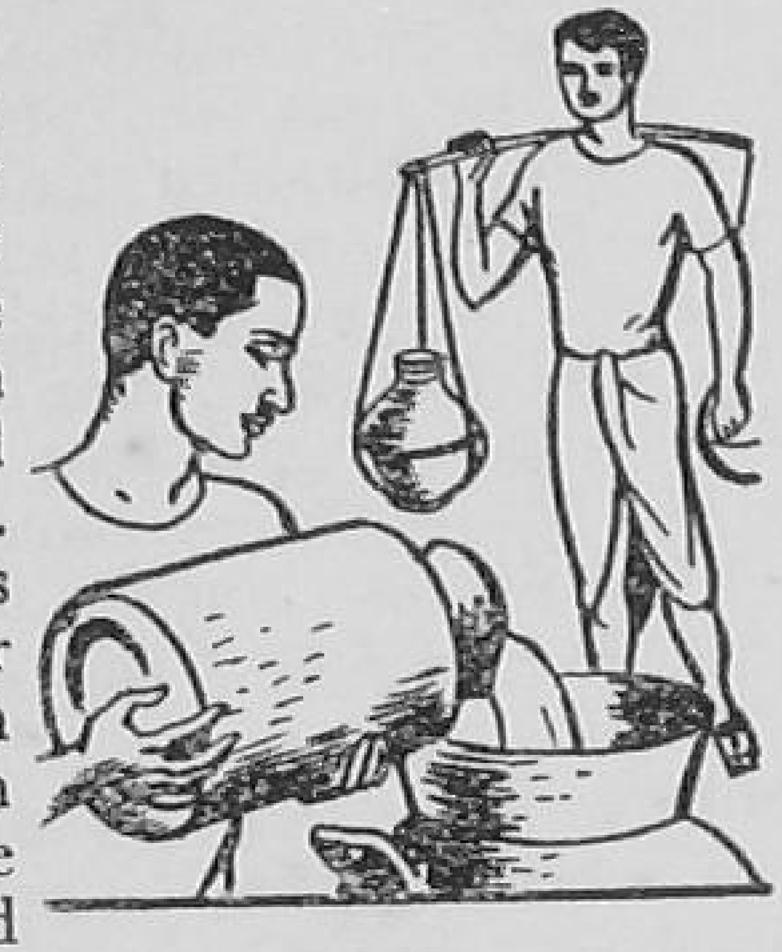
minutes, not more, or you will destroy much of its food value.

The mixing of water with milk before it is sold is a sin against man and God.

Milk must be kept hot in a *HAY-BOX* and not on a cow-dung fire.

Skim milk is also a very useful food.

Milk Collecting Centre. A useful kind of *co-operative society* for *marketing* milk or ghee. The members bring their milk to the centre where it is taken over and weighed. What is wanted for sale as fresh milk is taken off to the market and the rest is turned into ghee, butter, etc. The skim milk is bought back by members for their children and calves.



Milk Recording. For the improvement of *dairy* cattle and goats the milk of each animal must be regularly entered in a milk register. No one can remember generation after generation and lactation after lactation what milk each animal gave. Milk recording is absolutely necessary if we are to get the best results from our cows and goats, and year by year to increase our milk supply.

The milking capacity of a cow is passed on to her descendants, especially through her bull calves, who pass it on to their heifer calves. When looking for a dairy bull therefore, you must ask what milk its mother and grandmothers gave and, if it is already in use, what milk its cow calves are giving. This shows how necessary milk recording is. Who can remember without a book, what milk a bull's grandmother gave?

You need not weigh the milk every day. You only need do it once a week. On that day you carefully weigh the milk of each animal separately, and enter the weight (with the date) on its special page in the book, morning and evening. The WEANING OF CALVES at birth helps milk recording. The only way to do this properly is to join a *Co-operative* Milk Recording Society. The society will get the books and the weighing machine, and show you how to do it all, and see that you do it regularly. Not only will you get more milk, but when you sell your surplus calves, you will get a far better price for them, if by joining a milk recording society you have made sure that your records are accurate and reliable.

Minimum Wage. (See CONDITIONS OF WORK.)

Model Villages. These are a snare and a delusion and hold up progress. While efforts are concentrated on the selected villages the rest sit back and smile. They know that before their turn comes the enthusiasts will have gone to another district and the movement will have died out. When they are told to do as the model villages are doing they say 'You gave special staff and money to those villages; do the same for us and we will think about it'.

Meanwhile the model villages may develop unexpected difficulties and obstacles and may never become models, and much of our time and money has been lost. The proper method is by a *general attack* upon all villages, all the time for all kinds of *uplift*.

Money. A certain amount of money is required for farming, industry, and living, but this can be collected if only people will stop wasting it as fast as they get it, or borrowing it before they have got it.

Money may be borrowed for productive purposes—wells, bulls, seed, machines, education, medicines, etc., but must never be borrowed for unproductive purposes, i.e. gold and silver ornaments, weddings and other social ceremonies, or litigation.

Money not required for the day-to-day needs of food, clothing, medical aid, education, etc., must be saved, that is put into Post Office Savings Banks or Co-operative Banks. Out of savings a modest sum can be spent on social ceremonies and ornaments too if desired—but enough must be left for the demands of business—seed, cattle, tools, raw material, etc.,—and for accidents and emergencies—crop failure, death of cattle, breaking of machines, illness, etc.

Everyone must have a Savings Bank account or be a member of a Co-operative Thrift Society. (See INTEREST, CREDIT, WASTE.)

Moneylender. We all abuse moneylenders—largely because to oblige us they lend us money for all kinds of waste and extravagance. If the moneylender refused to lend money for any but productive purposes, that is, to spend on things such as wells or cattle or machinery that bring in money, he would be able to charge very low interest and we should soon be prosperous and out of debt. We should still abuse him—until we learnt that he was right and that weddings and ornaments should be financed from savings, not by borrowing, and that litigation should be given up altogether. (See CREDIT, MONEY and INTEREST.)

Mongrels. Pedigree breeds should not be mixed. The crossing of milk and draught breeds of cattle does not produce *dual-purpose* animals; it produces mongrels which may not have the good qualities of either breed. Breeds should be kept distinct and should not be mixed except to produce some definite cross-bred animal which is recognized to be valuable.

Mosquitoes. (See ANOPHELES.)

Mosquito Nets. (See MALARIA and NETS.) Can be made in the villages by a co-operative weaving or net-making society. Woven netting is not as good as the expensive knotted netting made on very elaborate machinery, but it is far cheaper. It was good enough to be used by millions of soldiers during the war and if well made and properly looked after will keep out flies and mosquitoes, and last a long time. If net-making becomes a village *industry*, the net-makers as well as the health authorities will take an active interest in spreading the use of them.

Movement. Uplift is a movement and must be kept moving. Not a jerk here and a spasm there but a mass movement of the people towards a higher STANDARD OF LIVING. To get a people moving requires full and continuous pressure, a GENERAL ATTACK based on a PROGRAMME and supported by a full ORGANIZATION.

A school here and a travelling cinema there will not UPLIFT a country. To do this will require red hot enthusiasm. From the head of the province to the humblest village worker everyone must join in and work wholeheartedly together. Every-

one must help to make the programme and everyone must learn it (see TRAINING); everyone must live and practise the programme and everyone must teach it and preach it and do their utmost to spread it. (See FAILURE and OPPOSITION.)

Multiplicity of Societies. We have the Red Cross, the Boy Scouts, the Women's Welfare Society and several others, perhaps, in our districts. Collecting money for each of them separately in our scattered villages is a difficult job and yet the more money they have the more useful work will they do. The same peopie usually subscribe to each of them. A possible way out of the difficulty is to make the subscription to the Rural Community Council, a sort of amalgamation of them all, and let all the organizations be, as it were, branches of the Rural Community Council. The amalgamated subscription would be divided up in an agreed manner. This would not prevent anyone being a member of one society only, if he wanted to, or subscribing extra to any particular society, but it would enable villagers who wanted to, to contribute to them all in a lump sum.

The Rural Community Council runs the District *newspaper*, which is used by all the various societies, so that there is nothing illogical in a joint subscription.

In a similar way, to enable people from a long way off to attend the meetings of all the societies without spending too much time travelling, it is a good thing to have all their meetings much about the same date so that those who come in for one can attend them all.

Multi-purpose Co-operative Society. (See SINGLE PURPOSE CO-OPERATIVE SOCIETY.)

Mule Breeding. A possible sideline for farmers, particularly those with a well, so that they can be sure of green fodder at all seasons.

There will always be a demand for mules for transport in steep hills, and probably for the Army too.

Nets. Every child should have a little net to sleep in. It will keep off mosquitoes by night and flies by day. At present a baby is put in a dark back room under a cloth to keep off flies, but if he is put in a net he can swing in his cot in the fresh air under a tree or in the veranda. Nets can be made in the village. (See MOSQUITO NETS.)

New Born Babies should have a drop of one per cent solution of silver nitrate put into each eye to avoid neo-natal opthalmia. Certified *dais* are taught to do this, so never call in any other kind of *dai*.

New Crops. The best crop each field will grow must be grown whether it is grass, grain, vegetables, fruit, poultry, timber, or anything else. By best is meant the crop that will give the best return and will do most good or least harm to the land.

It may pay us to grow some of the new crops introduced by Government (see CHANGE), instead of some of our customary crops. Don't be afraid to do that even if people laugh at you and call you a *mâli*! Laughing won't hurt you and you may be able to laugh back when you make a good profit and they can't pay their way!

Newspaper. A weekly village newspaper with plenty of pictures is necessary to help the uplift campaign. It would be run by the *Dehat Sudhar* Committee and the subscription for it would be included in the annual

membership subscription.

The paper will have pages or columns for farming, poultry, gardening or handicrafts, for health, for co-operation, for boys, for girls, for housewives, for ex-soldiers and for every other interest. It will have something for everyone and will be so interesting and readable that it will pay its way and require no subsidies and will not have to be bought by unwilling members as part of their duty to the District and the Committee. No District Committee could afford to publish such a paper and therefore the pictures and most of the printed matter must be provided from Provincial Headquarters. East district will receive the centre pages every week and will add its own covers and title and as many other pages as it requires for its own news, notices and other material. Every department and organization will make full use of it, and as it will reach every village and every school, hospital and other institution it will be invaluable for the spreading of information—including auctions, tours of officers and other coming events which are now very poorly publicized.

The paper will entertain as well as instruct. Its pictures will be the best possible and plenty of them. It will have much of general interest, such as science written simply, travel, adventure, sport, heroism, general knowledge and all the kinds of material which will make people want to learn to read, and when they have learnt will prevent their forgetting again.

Nurses. Nurses cannot do doctor's work but where they are employed they enable doctors to do far more and far better work. Every dispensary and hospital should have nurses. There should be resident nurses for Co-operative *Health and Medical Aid Societies*, and for the villages with outlying clinics visited on fixed days by the rural *dispensary doctor*. These nurses would collect the patients for the doctor's visit and look after them between visits. *Health centres* should have nurses to help the *lady doctor* and enable her to do more work and more visiting.

Nursing is perhaps the most honourable profession in the world and every girl should learn as much of it as she can whether she is likely ever to be a nurse or not. A practical knowledge of nursing will be useful to a woman all through life—particularly of course if she ever has children of her own to bring up or helps to bring up anyone else's children.

Occupancy Tenant. (See CONSOLIDATION, NEW METHOD.)

Officers' Board. This consists of representatives of every department of the local Government and the Government of India working in the District and of Local Bodies, and of such institutions as the Soldiers' Board, the Women's Welfare Committee, the Red Cross and the Boy Scouts, etc. The Collector or Deputy Commissioner is the chairman. They meet at regular intervals and plan how to promote the uplift policy and programme of the *Dehat Sudhar* Committee, (of which many of them, of course, are *ex-officio* members, and many join as paying members because they are keen to help). The secretary is a keen junior official. He collects beforehand the

proceedings of the *Dehat Sudhar* Committee and a note from each department about its work, its difficulties and its suggestions. These are circulated to all members and a rough agenda and progress report is prepared for the meeting. At the meeting each department explains exactly what it is doing in the District, its policy, its programme, and its difficulties, and all departments see how they can help each other and make a plan to work to until the next meeting. Each department knows what every other department is doing, there is an end of jealousy and friction and complete co-ordination of the Government effort.

The Officers' Board and the *Dehat Sudhar* Committee work carefully together. The *Dehat Sudhar* Committee is the popular non-official Parliament of the people themselves to decide what they want to do to uplift the district and how to do it. The Officers' Board makes sure that every public servant and department is working in perfect harmony and efficiency with each other and the two together ensure that Government and public are working in perfect co-ordination and harmony with each other.

Organization. The secret of success and of *continuity* and permanence. If things are to be done at all, done cheaply and done efficiently the doing of them must be properly planned and properly organized. Most people are ready to plan and to work and to put things right if they know what is going on and if other people will also help. This voluntary work can only be secured by good organization. The village must be organized, and so must Government from top to bottom, to make sure that everyone works, works together, and works in the most efficient way possible, and works at the right tasks. Publicity must link Government and the people together so that everyone shall know what is being planned and what is going on. (See PLANNING and TRAINING.)

Ornaments of gold and silver. By all means buy a modest amount of ornaments, but they must be bought out of savings not by borrowing. They should be worn for special occasions, not for everyday work.

Savings earn money. Ornaments lose money. (i) They wear out. (ii) Fashions change and they have to be remade. (iii) They are mixed with alloy and never worth the money paid for them. (iv) Thieves take them and for fear of thieves people refuse to have ventilation in their houses, which is extremely bad for their health. (v) The wearing of ornaments produces jealousy and rivalry, and so more and more debt.

Children must never wear ornaments because:

(*a*) They make washing and playing difficult.

(*b*) Children are robbed, mutilated and murdered for their ornaments.

(*c*) They may make them vain and wasteful.

(*d*) Ornaments will not make a dirty or unhealthy child beautiful. Beauty comes from health not from ornaments.

(*e*) Boring holes in children's ears and noses without anæsthetics and

without antiseptic is cruel and dangerous.

A child's best ornament is its health, its cleanliness and its brightness. These are obtained by good regular washing and attention to eyes, clean clothes, good upbringing and good education.

One-day Shows. Big fairs lasting several days cost a lot of money but a ONE-DAY SHOW can be held for a very small sum of money. It will attract the people for a few miles around who will bring their crops and livestock to compete for prizes. If all departments join together and make a joint travelling exhibition and show, it can visit the big villages every ten or twelve miles or so, arouse the villagers, and put heart into the village workers.

Such a show can tour a whole district, giving a show near enough to every village for the people to bring their cattle and other exhibits and get back home again, all in one day.

The show consists of a small CATTLE SHOW, and competitions—with small prizes—for everything else possible such as crops and vegetables, poultry and handicrafts. The exhibits are portable and simple, just the important items of each department that are being 'pushed' at the moment in the locality visited. The man in charge knows the exact details of each departmental programme. Before the show starts he trains the ex-soldiers, Boy Scouts, village guides and other voluntary helpers from the locality so that they can help him. Perhaps a school will lend a glee party or arrange a procession with banners, there will be sports and speeches, perhaps the touring *cinema* will also be there, or the show will have its own magic lantern and radio set for an evening show. *Gramophone records* are a very useful stand-by for the one-day show. Each day turn by turn some department will send a representative to help, and local magnates will of course be there and district officials will look in whenever they can.

Such a touring circus will do a very great deal to spread the new life in the villages. It should of course arrange to visit the local fairs and *melas*, so as to make use of the opportunity given by the crowds that collect at them.

Remember to have a special section for the *women*, to help them to improve their homes and their methods of feeding and clothing and bringing up their children.

Opposition should stimulate us to greater efforts. If people do not do as we expect them to do, it means that either we have not explained ourselves properly or the new thing we recommended is not really good. Opposition compels us to make certain that our plans are well founded and absolutely sound. If we wilt and lose heart under opposition, we either have not the goods to deliver or we have not the 'guts' to deliver them. (See FAILURE.)

One has only to read the story of the great people in the past, who by their fearless and untiring efforts achieved great things, to realize that if a thing is really worth doing we must give our life to the doing of it. Read the story of Florence Nightingale, Elizabeth Fry, Madame Curie, John Howard, William Wilberforce, Roland Hill and in our own times Dr Barnardo and Baden-Powell.

Outlets. CANAL outlets are designed to give each farmer his fair share of water when the canal is running full. If the canal runs half-full silt will settle in the canal bed and if it runs over-full it will scour its banks. In one case the

farmers would get too little water and in the other too much. For this reason instead of running canals half-full, when the water in the rivers is low (see EROSION and FLOODS) the canals are 'rotated', that is, they are each run full, turn by turn, one after the other. Do not grumble, therefore, when you see someone else's canal full and yours empty. You will get your turn in due course, if you have not already had it.

Panchayat. It is part of the *village organization.* It is a 'statutory'

body, that is, it is established by law with certain duties to carry out. Whenever things have to be done in the village by law, the panchayat is there to see that they are carried out. For instance, if there is a Health Act the panchayat will look after drains, ventilators, vaccination and wells, if there is a Soil Conservation Act it will look after erosion and the terracing and embanking of fields, if there is compulsory education it will see that the little boys and girls go to school. The panchayat has the power to levy taxes and it must not be afraid to do so in order to do work to make the village healthy and comfortable.

The panchayat also tries minor offences and petty civil cases. A good panchayat will settle all manner of quarrels and will keep people from going to law and wasting their money on litigation.

In some countries there is a law by which every able-bodied man has to do so many days' work every year for the common good. This law would be very useful in India and Pakistan where money is scarce but there are plenty of idle hours. Even before such a law is passed a good panchayat can do a lot to organize voluntary labour for such things as mending *village roads,* filling up depressions, building bunds and digging drains and whatever else is necessary to improve the village.

The panchayat and the co-operative societies between them must carry out the whole uplift programme. Even without statutory powers a panchayat will do a very great deal if only the *panchas* are honest, have nothing to do with parties and factions and believe in and live the new life themselves.

Pasture should improve year by year. In India and Pakistan it gets worse year by year, because all pastures are overgrazed. Until villagers learn that the number of animals *grazing* must be fixed solely by the capacity of the pasture to carry them, all grazing must be stopped and all animals be *stall-fed.* When this has been done the pastures will recover and the villages will make enormous profits.

Once grazing has stopped the pasture must be developed for grass cutting. (See COMMON LAND and COMMON LAND MANAGEMENT.) Where very unlevel, dig plenty of small shallow trenches a few feet long across the slope of the land. (See CONTOUR BUNDS.) These will stop the flow of water and help it to soak into the ground. Grass and trees should be sown or planted on the downhill side of these trenches. Where fairly level, divide the pasture into small compartments with little banks to hold up rain water; sow good grass seed particularly on bare patches and harrow occasionally.

If ever a pasture is grazed, (see GRAZING FEES) it should only be grazed after the monsoon grass has fully grown and whatever is wanted for *hay* and *silage* has been cut. It should be divided into compartments by fences so that each part can be grazed in rotation for a few days at a time and then may have time to recover before being grazed again. In this way the best parts are not overworked, the grass has time to grow before it is grazed again, and much more grass is obtained than by letting the cattle roam over the whole pasture as they like.

Patwari. In the old days the patwari did what little uplift there was —reporting epidemics of man and beast, plagues of locusts, etc. Now-a-days he is not expected to help, in fact it is often assumed that he will oppose uplift, and it is often alleged that the patwari for his own purposes is a trouble-maker.

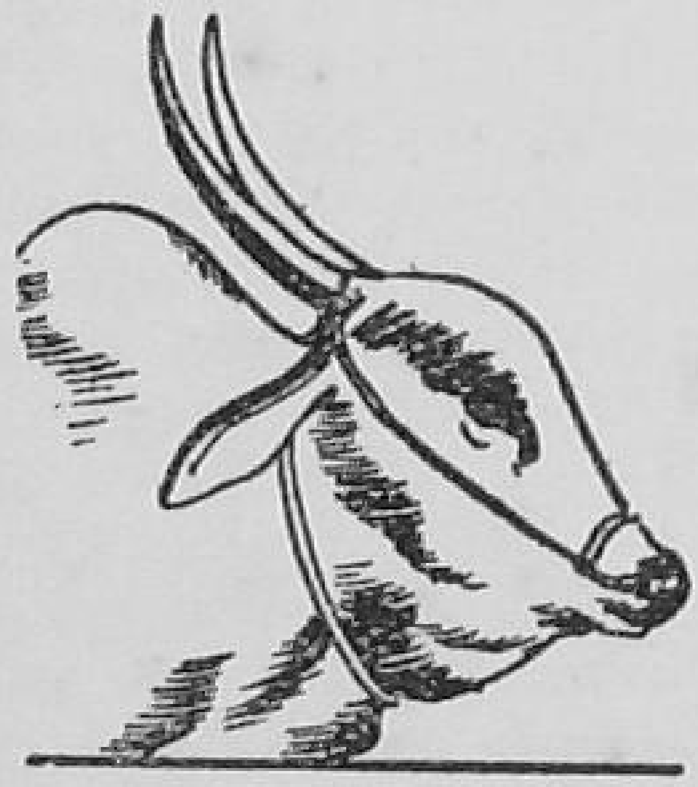
This is quite wrong. The patwari should be our strongest ally in the village. We do not want his time, we merely want his good will. When he visits the fields he should know good seed from bad and suggest to the people that they would get better crops if they sowed good seed, embanked their fields, dug wells and so on. When he sees children with bad eyes or unvaccinated, he should give a friendly hint to their parents. This is all, and it will be ample. We want the patwari to be definitely on our side. And of course the patwari must be properly paid and given proper prospects of promotion and proper conditions of service. This will cost money but will be worth ten times the cost in happy, peaceful villages. If the patwari's service was as attractive as its importance deserves, it would be possible to get B.Sc.s' of agriculture as patwaris and to use the patwari's office as the recruiting ground for most of the district staff. Those who say that a well-educated man would not do a patwari's work properly do not realize how important and responsible the patwari's office should be — the one educated and trained man in the village. He should be the guide, philosopher and friend of the village and his *training* should include a full course in village uplift—as full a training as the village guide receives. (See DISTRIBUTION OF SEED.)

Paving Streets. A great boon and not very expensive if the people will work together. Each family is responsible for the street outside its house. Proper DRAINS must be made. A job for the PANCHAYAT or the CO-OPERATIVE SOCIETY. (See TIDYING UP THE VILLAGE.)

Paying Membership. There is a tendency to make village associations for various purposes. The members pay no entrance fee or annual subscription. Members come and go, depending on the keenness of the organizing official, and the associa-

tion has no real existence and soon dies out when the official is transferred or is too busy to keep it going. This is not the way to make progress. Those who are not keen enough to pay small fees and subscriptions or to submit to the small but very necessary discipline of a Co-operative Society are not going to uplift their village. Where people put their money, there they put their heart. Better a small society with genuine paying members than a vague body without the keenness to pay the entrance fee and the annual subscription. (See FREE ISSUES.)

Pedigree. It should be the mark of a country gentleman to keep pedigree *livestock*—whether it is cattle, sheep, poultry or any other animal. Every big landlord must keep pedigree stud males, for his own use and for his neighbours, tenants and dependants. Instead of competing with each other in expensive weddings, faction and litigation the rural leaders must compete with each other at cattle shows, ploughing matches and other shows and competitions.



Panchayats, co-operative societies and Court of Wards estates should keep pedigree bulls and pedigree males of other breeding stock.

All these societies and people should also encourage *tattooing* and registration and recording so that accurate records can be kept and herd books and stud books built up. (See SELECTIVE BREEDING and MILK RECORDING.)

Permanence. (See CONTINUITY.)

Persuasion. (See COMPULSION.)

Pests and Diseases of Crops. Crops, like us, are liable to diseases and ailments. (See DISEASE.) Government is always at work trying to discover their causes and cures, and the means of preventing them attacking our crops. Sometimes it is an *insect* such as a moth (see KUTRA) whose offspring, that is caterpillars, eat up the crop, and we catch it with a *light-trap*. Sometimes it is a fine dust which can be washed off the seed before we store it after harvest. (See SMUT.) Sometimes we have to sow a new kind of seed which resists the particular disease of that crop. (See GRAM BLIGHT.) Sometimes by sowing earlier or later we can avoid some pest.

It is no use describing them all here. They differ every where. As soon as you see something wrong in your crop take samples to the *expert* and then do exactly as he tells you. It is well worth while, you may be able to save your crop—if too late this year, at any rate next year before the disease can start again. (See also PYRILLA and TOP-BORER.)

All these pests should be the special game of *Boy Scouts* and schoolboys.

Pictures. Coloured pictures are wanted for the walls of houses. The *housewife* is ready to buy them and she used to buy cheap Japanese pictures. Why not publish pretty coloured pictures of the villages, homes, courtyards, wells, gardens, orchards, domestic animals, and all the other nice things that we want to see in our countryside? They can appear

as coloured supplements of the village *newspaper* and then be sold separately by the village SHOPKEEPER. (See PUBLICITY.)

Pits. The foundation of good health and good crops. All sweepings, dung, rubbish, and waste from house, stable, street, village and farm should go into a pit and when it has well rotted, be used as *manure*. At present a great deal of this priceless stuff is used not to grow good crops but to breed flies and to produce *dirt*, stench, bad *eyes* and disease.

Pits can be of two kinds: (i) Compost pits. These are shallow and the stuff is carefully spread and turned over and sprinkled with water every few weeks until after a very few months a most rich and valuable plant-food is made. Compost demands hard work which very few farmers are yet ready to do, merely for the sake of manure, the one thing that makes the difference between ordinary crops and good crops.

(ii) The collecting pit. Six feet deep and six or eight feet wide, and as long as necessary to take six months' rubbish, sweepings and dung. When the pit is full it is covered with earth and left to rot. If water is added occasionally it will rot all the quicker. Meanwhile a second pit is being filled while the first is rotting. And so it goes on harvest by harvest, one always filling and one always rotting. The pit must have a little wall on three sides, two feet away from the edges of the pit, to keep out cattle, dogs and children. It can be made of the earth dug out of the pit and plastered. All rubbish must be thrown clean into the pit and not half in and half out.

People often complain they cannot dig pits because the land belongs to the village and the village will not allow them to dig pits for the fear of their acquiring rights in the land. This must be arranged, by legislation if necessary, so that people may dig pits by agreement with the village and without acquiring rights in the land.

Plague is spread by the fleas that live on rats. The fewer rats the less plague, so get rid of all rats. Once plague starts the only way to escape it is by inoculation. Inoculation may give you a little fever but that is better than plague. Plague usually begins with swellings under the arms or in the groin, but the first sign of plague is often the dying of rats.

When plague starts or rats begin to die in your or a nearby village the time for *inoculation* has come: not inoculation of the school children or a few men, but every man, woman and child of every age, caste or tribe in the village. Send for the doctor and prepare every man, woman and child for his coming. Line them all up the moment he arrives and have them inoculated as quickly as possible so that the doctor may waste no time to go on and do the next village.

It is not enough to go and live in the fields outside the village when the plague comes. People will keep coming back for clothes, blankets and what not and will take the fleas, and therefore the plague, back with them to their shelters in the fields. Besides, once people take to the fields it is impossible to round them up for inoculation. They lie down in the crops or hide in the jungle when the doctor comes.

When people come to your village from a plague-stricken village, don't allow them inside, even if they have been inoculated. Make them live in tents or shelters some way off, outside the village, and of course see that they are inoculated if they have not already been done.

Planning. There are a hundred and one things to be done to put the village right and to make it the bright, happy, healthy, comfortable place it should be.

Everyone must join in this planning from the Government at the top down to the village housewife, who has to settle where the haybox must be put.

To enable everyone to join in the planning, ORGANIZATION is required, and publicity must make sure that everyone knows what is going on and where they fit into the plan.

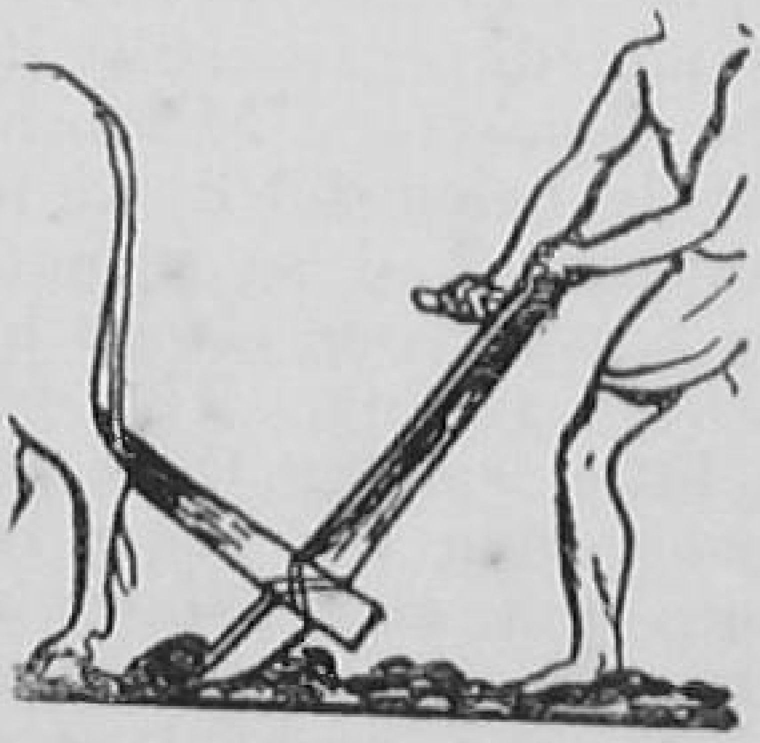
Planning should start from the home and the village. If we paint a picture of the home, the village, the workshop and the farm that we wish to see, we can then 'break down' our picture into the various jobs and departments and societies necessary to make the picture come to life. By planning in this way we can be sure of the co-operation of the people themselves both in making and in carrying out the plans, we can be sure that nothing has been left out, we can be sure that Government and all its servants are in the closest touch with the people and we can be sure that plans will not go over the heads of the people and be of no use to them in their homes and hamlets.

Once we know exactly what is required to put the homes, villages, farms and workshops right we can go on planning right up to the top, district plans, provincial plans, all-India plans, knowing all the time that our foundations are sound. If we start from the top downwards we may never reach the village and even if we do we may find our plans do not give the people in their homes the help they need to make them healthy and happy. (See HAPPINESS.)

The large-scale plans are the bones which grow under the flesh and blood of better homes and happier people. All the innumerable homely things which mean so much in food, health, and happiness, and cost so little except good planning, hard work, imagination and co-operation, will prepare the people for the big plans, provide the incentive for all the hard work and self-denial necessary, teach Government and people to work together and convince the people that Government is truly anxious for their welfare and knows how to help them.

All planning therefore, short term or long term, small scale or large scale, must keep in the closest touch with the actual life of the people and the touchstone of the success or failure of all plans and projects will always be their effect on the lives and homes of the people in their villages.

Plough. The old wooden plough with an iron tip is a very useful *implement* for keeping the soil stirred but immediately after harvest the soil should be turned over with a furrow-turning iron plough. This will cut the roots of the weeds and the old crop and by turning over the *top-soil* will kill the weeds and let the birds get at the INSECTS underneath. The air will get into the *soil*; all the dead leaves and stalks and dung manure on the surface will be buried and turned into good plant food. Ploughing with a furrow-turning plough requires skill and practice. Furrows must be straight and the plough must come out of the ground at the corners or



else the land will become rough and bumpy. It does not require extra special bullocks to pull an iron plough. Ordinary bullocks will do it, but it always pays a farmer to get or breed the best cattle possible. (See LIVESTOCK and SELECTIVE BREEDING.) Consult the EXPERT about the best kind of plough to get. Iron ploughs can be made, and often are made, in small towns and villages.

Ponds. A village should have the right number of ponds and no more. They should be properly situated and properly dug. They must not be just the result of the promiscuous digging of earth for building and repairs. One or more ponds are wanted for cattle, depending on their numbers and where they have to go to graze. Ponds must not be half inside and half outside the built-up area, and when planning new ones they should be dug some distance away. Ponds are also wanted for steeping hemp. These should also be some distance away and down-wind of the village for the prevailing wind if possible. (See ABADI.)

The water of village ponds should be clean. The present custom of having an all-purpose pond combining sewage disposal, cattle drinking, dhobi-ghat, and children's bathing pools is sheer madness. It may be no harm for children to bathe in a clean cattle pond but clothes must be washed on the well or in the canal, and the village drains must never be allowed to run into the pond.

Cattle ponds must therefore have embankments on the sides towards the village to prevent drainage water from the village running in and fouling the water. Water must come in a channel from the canal or the open country away from the village. If possible let the cattle have a pucka ghat into and out of the pond. The edges of the pond should be straight and clean and clear of grass and mud to prevent *mosquitoes* breeding there. (See TWIN POND SYSTEM.)

Population. Now that famines and epidemics have been largely controlled, population is increasing at an alarming rate. Some people advise the teaching of artificial *birth control*. Others think that we should leave disease and famine to work their deadly will as they did in the old days. This last is wrong. Besides killing many of the best as well as the worst, these visitations cripple as well as kill and the survivors are often so maimed and their vitality so reduced that the race deteriorates rather than improves in the struggle for existence. Moreover the moral, physical and economic loss caused by this sort of life is immense. To see half their children die before they are ten years old is terrible grief and sorrow for the mothers who bore them.

Control of epidemics and famines, however, is only half the programme; the other and equally important half is the raising of the standard of living. It is a known fact that every rise in the standard of living and in the conditions in which the children are born is accompanied by a drop in the birth-rate. When girls go to school and college they will probably not be married till several years later than if they did not go to school.

The experts also tell us that birth-rate is controlled by death-rate. The faster people die the more nature tries to secure the survival of the race by producing more. Every drop in the death-rate therefore although it keeps more people alive, decreases the urgency of nature's struggle for survival and therefore reduces the birth-rate. In countries with a high

standard of living the decline of the birth-rate is their most serious problem and there is no reason to suppose that when the standard of living begins to rise in India her birth-rate will not also fall. In fact our job is to raise the standard of living so quickly and so high that the rising tide of population shall not swamp all possibility of improvement. (See BIRTH CONTROL.)

Poultry. A very promising sideline particularly for those without much land. As in all other livestock work, success depends on:

(i) pedigree and selective breeding,
(ii) proper feeding and keeping,
(iii) proper attention to disease and pests,
(iv) proper marketing.

Disease dominates poultry-keeping in India, because they are kept in the foulest hovels. Poultry must be kept in airy and easily cleaned hen-houses, perches must be tick-proof, i.e. their posts must stand in oily water so that no insect can crawl up them. Consult the expert.

The best way to do all this is by making a Co-operative Poultry Society.

Power. We measure engines by their horse-power, that is the amount of strength they have for doing their work. We should also measure cattle by their strength and not by their number. A few strong, good cattle are worth many bad weak cattle. Just as a cow requires a body ration to keep its body in good order, so does a bullock, and just as a cow requires a milk ration according to the quantity of milk it gives (see DAIRY), so does a bullock require a power ration for the work it does. The fewer and stronger bullocks we keep, the fewer body rations we shall want and the more food there will be for power rations to enable them to do plenty of work.

Practice. A pound of practice is worth a maund of preaching. Public servants, village leaders and workers must practise the new life rather than preach it. People do what they see us doing not what they hear us telling them to do. Everyone who holds any position or who claims any privilege must live the new life. To enable them all to do so, everyone must learn the new ways, at school and college, at home and wherever else they can. (See EXAMPLE and TRAINING.)

Preaching. (See PRACTICE.)

Prices. Good prices for farm produce are better than good seed! Prices must not be allowed to fall so low that the farmer cannot make a fair profit. To insure himself against low prices the farmer must have a SAVINGS BANK account.

Pride. We will never do good work unless we take a pride in the doing of it. We must never be ashamed of putting our whole heart into our work and refusing to be satisfied with anything but the best. Shoe-making is as good as keeping accounts or writing a book, as long as we put our whole heart into the making of the shoes. (See CRAFTSMANSHIP.)

We are more proud of things we have paid for or have made ourselves than things we have been given free of charge. (See FREE ISSUES.)

Privilege. Many of us, both men and women, have privileges; we have education or land or wealth. We have social, official or religious positions. Our education may have been partly paid for by our country. We often owe the position we hold to society, and we get our wealth or salary from the work or the taxes of other people.

For all RIGHTS and privileges we must render account. And we must render account by service, service to our fellowmen, doing all in our power to help our fellowmen to make their lives happier, healthier and brighter. To do this we must learn and PRACTISE the new life. (See TRAINING and PRACTICE.)

Problem. The problem of rural India and Pakistan is psychological not material, to produce such an *incentive* as will rouse the people from their present *apathy* to the task of *uplift* and keep them hard at it.

Science, discovery, administration and industry have made such advances that man, beast and crop need no longer be the sport of climate, disease and economics. Famine, disease and malnutrition are no longer inevitable—if 100% of the people will do and live as they are advised to do and live. The problem is to get them to do so and to continue doing so of their own free will by persuasion and the machinery of democracy, and not by official *compulsion* from outside.

Programme. The programme of *uplift* is worked out for each district in the *Dehat Sudhar* Committee with the help of every department and *organization* and leader, official and non-official, working in the district. It naturally starts with the simple things like *pits*, good *seed* and *vaccination*, that everyone can understand. But as the work proceeds and impetus is gained, *girls' education*, *Women's Institutes* and all manner of new things are discussed and accepted. After preliminary discussion in the *Dehat Sudhar* Committee each item must be made known and explained in every home and village, school and co-operative society and the *publicity* machinery is there to do it. It is then put before the *Dehat Sudhar* Committee again and argued out, if necessary at several meetings. When it has been accepted, a beginning is made, not by COMPULSION but by publicity and persuasion to get the people to begin to try it out and to win over *public opinion* in favour of it.

From the very beginning the programme must be made as broad as possible; no one must be left out and no village must be forgotten. The programme must have something to interest every village and something to interest both the men, the women and the children. The programme must be the subject of active discussion under every *pipal* tree and round every well. It does not matter which way the argument goes; if the item discussed is sound it will win in the end.

The programme must be learnt and practised by everyone, official and non-official and must be taught in every school and college. (See GOVERNMENT SERVANTS, LEADERSHIP, TRAINING, EDUCATION and VILLAGE SCHOOL.)

Protective Foods. These are foods which protect our bodies from disease, keep our eyes and teeth good, make bones strong, and enable children to

grow up straight and strong. (See DIET.) Each part of us, brains, eyes, teeth, skin and bones require particular kinds of food to develop them and to keep them in good working order.

The protective foods are: (i) Light and Air, (ii) Milk and *lassi*, (iii) Fresh fruit in its season, (iv) Vegetables—in this order (*a*) leafy vegetables and carrots and tomatoes, (*b*) pulses, peas, dal, lentils, beans, groundnuts, cucumbers, brinjal, *bindi*, leeks, onions, cauliflower, etc., (*c*) turnips, *mooli*, potatoes and other roots.

We all eat rice and wheat but the food value of these can be very much reduced by polishing the rice and by making the wheat into white instead of whole-meal flour. All food can be spoilt by over-cooking. Where possible eat it raw, but when cooking don't over-cook. Many vegetables can and should be eaten raw.

The outer leaves of vegetables, the skins of the pulses and potatoes and the water in which the vegetables are cooked are all very valuable food and must not be wasted.

Skim milk is also a valuable food. Sprouted pulses or grain are excellent food and very cheap. Soak the pulses in water for twenty-four hours, spread them on a cloth, keep them damp, and when they begin to sprout eat them raw with *gur* or salt. Remember that the nearer your food is to nature the more its food value—and the cheaper it is. It is particularly important to give growing children plenty of the protective foods.

Public Health Act. There are a lot of simple things to be done to improve the *health* of the village. As soon as PUBLIC OPINION is ready for it, each one of them—*pits, ventilators, chimneys, latrines*, and all the rest—must be added one by one to the Public Health Act and made compulsory. The village panchayat must enforce the Health Act and all other laws compelling villagers to do the simple things necessary for health, wealth and comfort. PUBLICITY has gone so far in some parts of India and Pakistan, that they are ready for COMPULSION in the matter of manure pits, ventilators, covered well-tops and perhaps even good *seed* and the destruction of the *pohli* weed. They are far from ready for compulsion in the matter of latrines, as the latrine habit is not yet taught in schools, nor have practical types of 'self-servicing' latrines yet been shown to the public.

Publicity. The way to soften the resistance to progress is to spread the knowledge of the possibility and desirability of better things. Knowledge is spread by *education*, of which one form is publicity. The best publicity is for people in the village itself to do the new things and to live the new life for all to see. The next best publicity is to bring the thing you want the villager to know about and demonstrate it in his fields or in his village. If you cannot do that then you must talk about it and show pictures and models, or to put it into drama or sing songs about it. There are many other kinds of publicity all of which must, if possible, be applied.

Publicity must reach saturation point. Not a cinema here and a touring exhibition there, but a flood of publicity in every village and all the time. *Uplift* is 'combined operation', a *general attack* all along the line by every possible method. Every kind of device, ancient and modern, eastern and western must be used. Here are some of the many kinds of publicity, *drama, cinema,*

radio, weekly *newspaper*, *magic lanterns*, coloured *pictures*, *songs* and *glees*, *gramophones*, posters, pamphlets and handbills, models, *village guides*, demonstrations, competitions, 'weeks', exhibitions, shows, *melas*, meetings, speeches, books.

It must of course be remembered that the principal people to whom knowledge must be brought are the women, as it is they who are in charge of the homes, who bring up the children and are therefore responsible for the standard of living. It is they and their little children who suffer first and worst from ill-health, famine, disorder, or from the filth of the village, or from the effects of bad farming. It is all-important therefore that they should be told how things can be put right so that they may do what they can themselves and insist on their menfolk doing the rest.

Public Opinion. There are a hundred and one simple things to be done in the village. They cost very little except hard work and organization, but the doing of them would make a world of difference to health, wealth and happiness and comfort. At present however no one believes in these things and very few know anything about them. How are we to get these things done? It is no use passing laws about them; no one would obey the laws we made and it would take an army of low-paid officials to enforce them. No Government that is elected by the people can go very far ahead of public opinion and so if we want to get new things done we must first get public opinion on our side. EDUCATION must help. These things must be taught in every school and college and be made known in the village by every possible means of PUBLICITY and everyone must be persuaded to try them. As soon as people understand them and the more sensible and progressive have begun to do them, public opinion will be on our side and laws can then be passed and enforced compelling everyone to do them. (See COMPULSION.)

Pyrethrum. A valuable crop for farmers in the hills. From the flowers is made flit. Even the dry waste, when the flowers have been taken away, will kill FLEAS and LICE. Consult the EXPERT about growing it.

Pyrilla and Top-borer. Two moths that attack sugar-cane. (See INSECTS and PESTS.) Pyrilla is tackled in April and May; the moths are caught in hand-nets and the egg clusters on the leaves are crushed between thumb and forefinger.

The top-borer is tackled from February to November. The eggs are laid on the leaves and must be crushed. The moths are caught sitting on the leaves by day, and in light-traps, like *KUTRA* by night.

The top-borer can also be tackled in winter. It hibernates in the cane tops; so if farmers will finish their cane crushing before the end of February and feed all their tops to their cattle they will greatly reduce this pest.

Cane left for seed should be buried and not left standing for insects to live in.

These and all other pests should be the special game of Boy Scouts and schoolboys.

Quality. Quality is more important than quantity. Good things cost more than bad ones but are cheaper in the long run as they last longer and bring in much more profit. A few good cattle, sheep or poultry are better than many bad ones. Good ploughs, good tools

bring more profit than bad ones.

Good things are easier to sell than bad ones and sell for a better price. Bad things kill the market. Whatever you sell, see that it is up to the best standard, is absolutely clean, in perfect condition and properly packed. This can only be done by joining a *Co-operative Society* which will both watch the *markets* and see that your produce is as good and as attractive as possible, besides getting you the best prices.

Quinine. Quinine must be stocked by everyone. It costs money but it is cheaper than malaria. Quinine comes from the bark of the cinchona tree, but there are far too few cinchona trees in the world. The people who need it most have not the money to buy it, but if ten times as many cinchona trees were grown quinine might become cheap enough for all to buy.

How can the price of quinine be lowered? Quinine is sometimes sold below cost price to encourage people to buy. The danger of this is that this cheap quinine will be bought up by dealers and taken to places where it is being sold at full price. Another way of getting quinine to the people is for Government to give it away. But that stops sales at once. Everyone says 'I will wait until I can get it free'. (See FREE ISSUES.) No, white quinine must never be given away free of charge. For free distributions let the brown-coloured alkaloids of quinine be used and let the white quinine be kept for sale. The alkaloids are cheaper and taste nastier, but in slightly larger doses are just as good as quinine. Let them be kept for free distribution to genuine paupers.

No one likes being called a pauper and we must hope that all who possibly can will prefer to buy the white quinine with their own money. The possession of white quinine might become the mark of a certain social standard.

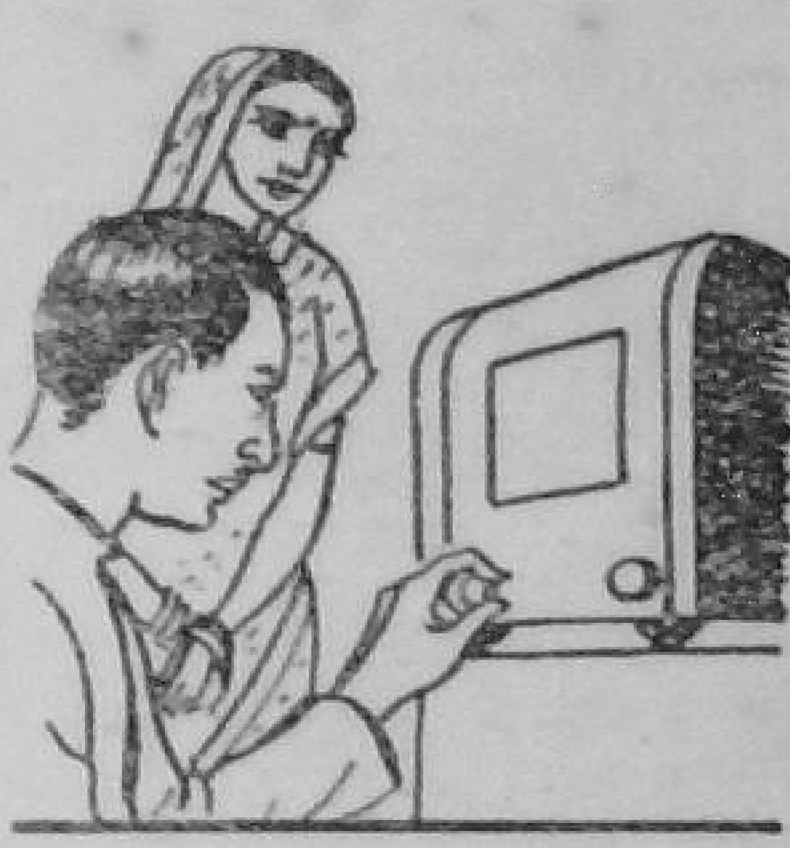
Neither of these methods, free distribution and selling below cost price, will solve the problem of cheapening *quinine for the millions* who need it. For another suggestion see below.

Quinine for the Millions. Quinine is at present far too expensive. It can only be cheapened by 'mass production', an immense increase in the number of cinchona trees and in the manufacture of quinine pills. No one will plant the trees or make the pills unless there is a market for them. But until the pills are cheap enough for all to buy, large quantities cannot be sold. How is this vicious circle to be broken? If any country sells below cost price the pills will be bought up and smuggled to countries where it is still selling at full price. The answer seems to be that all the malarious countries must agree together to sell quinine far below the cost price and so cheap that they can persuade everyone to buy it. The difference between sale price and the cost of production would be met by Government funds, Red Cross funds, subscriptions, and so on. At the same time the growing and manufacture of quinine would be encouraged and subsidized and a fair price guaranteed to grower and manufacturer. In this way it is hoped that as production increased the cost of quinine tablets would go on coming down until the sale price covered the cost of production. Even if it never did the cost to the public would be more than met by the reduction in malaria. It is possible that quinine may be superseded by paludrine or some other drug. If necessary the same system should be adopted to make that also cheap enough for all to buy.

Rabbits. Rabbits provide meat and skins, and one kind provides very valuable wool. Rabbits do well in very many parts of India. An excellent sideline in places where they breed. Consult the *Expert.* In Australia the rabbit became a very serious pest, but apparently there is no danger of this happening in India. One country at least, Switzerland, makes crores of rupees every year from rabbit wool.

Rabies. A deadly and terribly painful disease kept going by pie-dogs. This disease is not kept going by jackals and foxes though it spreads occasionally to them from the dogs. Once the dogs are controlled (see DOGS), this disease will be very greatly reduced. When any one is bitten by a dog or other animal which one thinks is mad, one must at once take him to the nearest doctor, who if he cannot himself give the necessary injections will send him to the proper hospital. The injections take several days and they are absolutely necessary, so at whatever cost and inconvenience the person who has been bitten must stay within easy reach of the hospital until all the injections have been given.

Radio. Radio should be an excellent way of teaching villagers, but the high fee for a receiving set and the heavy import duties on radio goods have made it a middle-class luxury instead of a means of spreading light in the villages. As soon as cheap receiving sets can be produced a really first-class village radio programme must be arranged suited to the needs and languages of the villages, area by area. The programme must be so good that villagers will be compelled to buy sets themselves. Once the people want sets the many ex-service mechanics and electricians will soon make the installing and servicing of sets and the charging of batteries a village industry. Government need not and should not issue receiving sets free of charge. (See FREE ISSUES.) The cost of the sets and of servicing them would use up all the Government money and leave none for the programme and for other 'uplift' work. No, Government must provide a really first-class rural programme and leave the villagers to buy and service their own sets. The programme should have a suitable time and special items for women, children, farmers and craftsmen, and for general entertainment.



A Co-operative Radio Discussion Society would be an excellent way of getting a set, keeping it in order and getting the best value out of it. In time every co-operative society will have its own set.

Rain. Does rain decrease when the hills are dried up by EROSION and does it increase when we re-clothe the hills with grass and trees by the CONSERVATION OF THE SOIL? No one can say for certain, but this much can be said, when the rain clouds come blowing along over a dry and desert area from which hot air is radiating upwards they will surely go up with the hot air and give no rain, or else the hot dry air will drink up the moisture in the clouds until there is little or none left to fall as rain on the earth. On the other hand when rain clouds

reach a country covered with grass and trees and crops they will at once drop their rain, willingly and abundantly.

Rallies and Reunions. The EX-SERVICE MAN must never be allowed to forget that he was once in the Forces. His comradeship, loyalty and sense of discipline must be kept alive and all his good qualities must be preserved for the good of the countryside.

Rallies and Reunions must be organized for ex-service men, not merely at large centres but all over the areas where recruiting has been heavy.

These rallies start with a parade and a march past, duly announced by buglers or trumpeters in full uniform and a speech from a senior military officer, also in uniform. Then come sports and games and a tea party. There may also be an uplift exhibition and perhaps some competitions for cattle, crops, etc.

Like ARMISTICE DAY, these rallies havs their serious side, when the ex-service man remembers those of his comrades who never returned, and dedicates himself afresh to the service of his fellowmen. If properly run, rallies are a splendid tonic to the countryside. They keep the ex-service man in good heart, and they spread the gospel of village uplift.

Armistice is the most perfect occasion for them, but where recruiting has been heavy, battles and birthdays and other great days must be worked into a regular programme, which ensures that every ex-service man may be able to attend two or more rallies every year within reasonable reach of his home.

Rats eat grain and other food, spoil clothes and other things and may spread *plague*, by means of the fleas they carry. Rats hate light and love darkness and dirt, so, if every room and godown and stable is clean and full of *light*, there will be fewer rats about. If you keep all boxes, bins and bundles on bricks several inches high, and several inches from the wall, rats will not live under them. If they do, the cats will be able to get underneath and catch them. Keep a rat trap or two, as well as cats. The floors and the sides of grain bins and godowns should be of *cement* for several feet up. Rats can easily be killed, and the fleas too, and many other noxious creatures by CYANO-GAS. Ask the health *expert* about this if plague appears in the neighbourhood.

Reading Room and Library. Very useful in a village. They must contain books, *newspapers* and magazines for all tastes, even for boys and girls and housewives. There must of course be literature on farming, crafts and housekeeping but there must also be good books on all manner of other things—fiction, travel, sport, adventure, hobbies, science written in simple language, and so on. If you do not have an interesting selection of reading matter your reading room and library will be empty.

Reclamation. Part of the work undoing the destruction caused by *erosion.* Once the run-off of water in the catchment area up above is controlled by closure, the *terracing and embanking* of the fields and the

reclamation of the lost land down below can start. Where the fields have been destroyed by the torrent, Co-operative Societies of the land-owners and tenants on both banks are founded and they start out from both banks planting grass and shrubs and young trees in the torrent bed and building spurs and bunds of earth, stones and faggots, where necessary, to guide the floods. As the vegetation grows it checks the floods and they drop their silt on it, and so build up the land on both sides and make a well-defined channel down the middle. The banks of this channel are strengthened with grass, bushes and trees, and, where necessary, with spurs and bunds. As the land is built up, more and better grass and trees are produced, from which a regular and increasing income is obtained, until gradually fruit trees and crops can be grown and the land is fully restored. Wide high banks must always be carefully kept on both sides of the torrent and be thickly covered with trees, grass and bushes to prevent the torrent from breaking out again over the newly reclaimed fields.

Recreation most necessary for villagers. Our proverb says 'all work and no play makes Jack a dull boy'. Recreation rooms and recreation grounds must be provided by the *Panchayat* or the *Co-operative Society* and they must help to organize games, provide and maintain a RADIO set, and make a READING ROOM AND LIBRARY. Once the radio set is working a discussion group can be started to get the best possible out of the programme. DRAMAS too and songs and GRAMOPHONE RECORDS can be played.

Red Cross and St John's Ambulance. Every ex-service man knows what wonderful work the Red Cross does in war-time. He would also like to see the Red Cross and St John's Ambulance doing wonderful work in his village in peace-time. Why should not village patients be carried in *motor ambulances* to central hospitals? Could not maternity and nursing services be greatly helped by these societies? Could they not bring much help and knowledge to the village mother in her very difficult job of bearing and bringing up children in the impossible conditions of our villages? Could they not also help to run the organization for medical inspection of school children? And the distribution of *light* ambulances to Boy Scout troops, panchayats, and co-operative societies?

Religion. Religion is our duty to God and to our neighbours and helps us to carry out the two great principles on which CIVILIZATION is based, and without which we cannot live together in towns and villages.

We cannot do without religion, although many people think that it is unnecessary. Marriage and family life are based on religion and without religion there is great danger of their breaking up. Children must be taught religion by their parents from the earliest age they can understand. Religion enables us to live together in families, villages and towns and must never be made the excuse for quarrelling and fighting.

Remissions of Land Revenue. Government has only a very little

money over from the day-to-day work of administration for new things and for progress and development. Every remission therefore stops progress. Remission may sometimes be necessary when sudden disaster such as floods or hail wipe out everything. But if farmers followed all the rules of good farming, and if they kept savings accounts and banked their money every harvest, and if they wasted nothing on weddings or litigation or ornaments, then remission would very rarely be wanted, and Government plan of progress would not be held up every time things went wrong and remissions had to be paid.

Research. The scientists—in India they usually belong to Government departments—are always trying to find out ways of enabling us to make a better livelihood and to be more healthy. They search for the causes and cures of diseases of man, beast and crop, they search for better seeds, for new crops, for new crafts and industries and for better ways of carrying on the old crafts and industries.

Our taxes pay for these workers and they are absolutely necessary for our health and our livelihood. We must always encourage our Government to spend more and more on research and we must never let Government stop research on the excuse of insufficient money. Research makes money and it is madness to stint it for money.

Ribbon Development. At crossroads, bus halts, country railway stations and other such traffic centres the most appallingly filthy little bazaars are springing up. The residents are completely without any sense of smell or sanitation, and without any desire to live in nice surroundings. They must be compelled to build under licence and only in places where drainage and sanitation are possible, and they must pay for both. If possible, the bazaar must be set back far enough for carts and lorries to halt without blocking traffic on the main road. If the present law is inadequate, then, to secure control, it must be suitably amended, as the present state of squalor on both sides of our roads and sometimes on the roads too, is a disgrace to civilization.

Rice. Polished rice like white *flour* has lost most of its food value and should not be allowed in a country where so many people are suffering from MALNUTRITION, particularly in the rice-eating areas. (See DIET and PROTECTIVE FOODS.)

Rights. Every right or privilege carries with it a *duty* or responsibility. We are all very fond of insisting on our rights, but we are less keen on admitting and carrying out our duties.

It is our right to do what we like with our own money but it is our duty not to waste it and it is our duty, whenever possible, to save it so that while it is lying ready for us in time of trouble it can be used to develop our country. (See SAVINGS.) It is our right to get rid of the dirty water from our homes but it is our duty to see that it is not a nuisance to other people. (See DRAINS (VILLAGE).) It is our right to go to a fair or *mela*,

but it is our duty to be inoculated against cholera before we start and to keep most carefully all the sanitary rules when we get there. It is the duty of the rich and the educated to use their riches and education to help their less fortunate neighbours. And so it goes on. Whenever we claim a right or PRIVILEGE we must be very careful to discover and carry out the corresponding duty or responsibility. (See DEVELOPMENT.)

Rinderpest. A very deadly EPIDEMIC DISEASE OF CATTLE. Symptoms: animals go off their feed, with staring coat, dry muzzle, hunched up back and high temperature. Pin point ulcers inside the gums and under tongue. After a few days comes diarrhoea and death—or recovery. But even if it recovers it will be useless for some months and if a cow, will stop milking.

The disease can largely be prevented by inoculation which gives immunity for about two and a half years.

Roads. Village roads must be kept in proper repair and not allowed to become drains for monsoon water. They must be raised a foot or so above the fields on both sides. The earth is got by digging a shallow ditch each side.

The farmers on both sides of the road must not be allowed:

(i) To encroach on the roads with their fields. If they do they must be made to move back their field-banks, with the help of the Revenue Act.

(ii) To dig earth from the roads for their field-banks.

(iii) To let water out of their fields onto the roads. They must keep strong banks towards the roads and renew them with earth from their fields.

Monsoon water must be taken away by proper *drains*, not along the roads.

If there is a *Panchayat* or a *Better Living* or Village Improvement Society it must organize the proper repairing and maintenance of the roads. There is plenty of *idle* time in the villages. Every able-bodied man must give so many days' work a year to road-mending or pay for a substitute, as is done by law in Turkey.

The best time to make the village roads straight and to get them the correct width and raise them to the proper height above the fields is when the village land is *consolidated*.

There will never be enough public money to make and repair village roads, so, when Government sets about improving them, it must always insist on the villagers doing their full share. Government can provide engineers and surveyors, girders and perhaps bricks and mortar, and may even pay for masons, but the earth work must always be done by the villagers themselves. Government may also provide a drummer or two to summon and encourage the workers!

Roguing. When you select a field of crops for SEED you must be careful to get rid of every weed and every plant, not only of other crops, but of every other variety of the crop whose seed you want. In a field of American COTTON, every other kind of cotton is a weed and must be removed. In a field of C. 591 wheat, every plant of 8A or C. 518 wheat, is a weed and must be removed. If you do not do this, your seed will quickly become inferior, every year it will be less and less pure. Your crops will be worth less and less and your seed will be valueless.

Rotation. (i) *Of crops.* Each crop takes certain things out of the SOIL; some crops take their food supply from the surface layers of soil and some from lower down. Some crops such as the pod plants (legumes) put useful things into the soil and it is advisable to sow one of them every second year or so. If the same crops are sown year after year on the same land, the soil will become exhausted and its composition or texture may be changed for the worse. A different kind of crop therefore must be sown each year for several years. That is called crop rotation and you must ask the EXPERT to advise you about the rotations to suit your soil and climate. In this way, and with the help of MANURE and the other work of GOOD FARMING, the fertility and texture of the soil will not only be maintained, but will be improved.

(ii) *Of grazing.* Instead of letting animals wander all over a *pasture,* neglecting all but the best patches and nibbling them so close that they cannot grow, divide your pasture by walls or FENCES and GRAZE each part in turn. By this means you will get far more and better GRASS, as it will have time to grow properly while the other parts are being grazed, and the best grasses will not be eaten down to the roots.

(iii) *Of lopping.* Trees must not be lopped for fodder every year. To give the trees time to recover and thereby to give you the greatest amount of fodder possible you must only lop them once in three years or so. So divide your trees into three parts (or whatever the number of years the expert advises) and lop each part in turn, once every so many years.

(iv) *Of forests,* by which, turn by turn, they are closed to grazing. This kind of rotation, unfortunately will not save the forests from destruction. (See FORESTS and FORESTS, GOVERNMENT.)

Rubbish. No rubbish must be burnt, it must all be put into pits for manure. The rubbish in the streets of the village belongs by right to the village but as long as it is there it does nothing but harm. To encourage cleanliness the village Panchayat should decide that it shall belong to whoever collects it and puts it into his pit.

Running Account. The father and mother of debt. Pay cash for everything and you will look both sides of every anna you spend, you will only buy what you must, and you will bargain for the best price possible.

If you buy on credit you do not bother about the price and forget that you are buying at the highest price possible and paying interest on your purchase until you pay for it.

Rural Community Council. (See *Dehat Sudhar* COMMITTEE.)

Savings. There can be no social security without savings. Until you have savings you can never be safe. One accident may ruin you, the breaking of a machine, a fall in prices, a hail storm, a cattle thief, a flight of locusts, a frost, a flood, a drought, a microbe or a moth! Bang goes the standard of living you have built up by your hard work. Savings even out the ups and downs of climate, crops, prices and all other chances and accidents that may come to you. Whenever you earn anything you must put by what is not wanted for immediate needs. Then when the bad days come or the accident happens and you have to spend money,

the money is there to keep you going.

Savings do threefold work. They are a reserve against emergencies; they earn money all the time by way of interest; until they are wanted by the owner, they are used by the bank or by Government to develop your country.

A savings account is as necessary to a farmer as his plough, and to a craftsman as his tools.

Savings is not a matter of wealth but of habit. Poor people say they cannot afford to save. The fact is that poor people cannot afford not to save. Like all habits, savings is hard to start but once the habit is formed it is not difficult to keep it going. Savings can be done through the Post Office Savings Bank or a Co-operative Savings Society. Insurances are also a means of saving.

Ornaments used to be a kind of savings but are now quite out of date.

A man with savings can often be his own master, while a man without savings has to work for someone else.

Children must be taught to save from the first day they are given money to spend. If they are given one anna to buy sweets they must be taught to put one pice into their savings box.

Savings System. There are three elements in *saving,* (i) self-denial—preferring future security to present indulgence, (ii) deliberate action—putting our spare money, or deciding how much of our salary shall be put into savings—and (iii) putting our money where we cannot get at it too easily or too quickly.

There is as yet no real savings system in India or Pakistan. The Savings Bank can only be operated at post offices and these are rare in the villages. As there can be no social security without savings, a system must be devised by which the people of every village can put money into savings without going more than a mile or two from their villages to do so. Can the Post Office or the Co-operative Department do this? Can workers be found, paid or honorary, who will visit villages at fixed times to take savings and carry them to central savings depots? Something must be done at once as a savings system is probably essential to national prosperity.

Saving Water. Water can be saved by:

(i) Clean, straight, short, narrow water channels.

(ii) Level fields and strong banks. (See EMBANKING.)

(iii) Small water compartments.

(iv) CONSOLIDATION OF HOLDINGS—enabling you to bring water to your fields in one channel instead of many.

(v) Agreeing together each season to sow the crops in one block.

(vi) Using drought-resisting seed.

(vii) BUNDS and all the methods used in the *Conservation of Soil.*

(viii) Special methods of cultivation:

(*a*) Ploughing fields immediately after harvest to catch any rain that may come.

(*b*) Dry ploughing of light land.

(*c*) LINE sowing and ridging of crops.

(*d*) HOEING and HARROWING of both unsown as well as sown fields whenever a CRUST forms after irrigation or rain.

(*e*) WEEDING—weeds use up water.

(*f*) MANURING—land will soak up more water if it is well manured.

(*g*) Plenty of ploughing, HOEING and HARROWING.

Use WATER like money, only when necessary and then only just as much as will do the job properly. (See ECONOMIZING OF CANAL WATER.)

School. The village school must definitely encourage and develop village life. Its curriculum and its atmosphere must not be urban. It must not give the children a longing for the towns but a determination to be good villagers and to make the village more worth living in, and it must show them the practical ways in which this can be done. Wherever possible the illustrations and instances and the arithmetical sums must be taken from village life and problems. The village school must teach and practise the whole uplift programme but it must never preach what it does not practise. (See INCENTIVE.)

Up to the age decided by the parents and the school authorities, the village school will have both little girls and little boys. (See CO-EDUCATION.)

Handicrafts will be taught to every boy and girl. School games will be very carefully organized. There will be Cubs and Scouts and Blue Birds and Girl Guides in a good village school. There will be a school garden or farm plot which grows vegetables, fruit and flowers and samples of the various crops grown in the village—with all manner of experiments in seeds, manuring and cultivation. (See GRAFTING.)

There will be regular *medical inspection* of all the children. The school will have latrines of the pattern recommended for village use and the children will be taught to use them properly. The school will have its vaccination register and the headmaster will insist on every child being vaccinated and re-vaccinated at the right time. Health knowledge is the most important of all teaching and will be fully taught and practised. If children arrive dirty or untidy they will be cleaned and tidied up and the parents will be visited and taught how to send their children to school. If a boy comes without his little sister the parents will be persuaded to send her too.

The school will take an interest in village life and help in every way possible to teach and practise the uplift programme. It will help to fight LOCUSTS and other PESTS. (See LIGHT TRAPS and PYRILLA.) It may be possible to have a School Co-operative Society for all the children's school books and other necessities. There should certainly be a Co-operative Savings and Thrift Society to teach that vital lesson. It will have a drama club and will take a part in any fair or show in the neighbourhood. The children will take home seeds or seedlings for their home flower and vegetable plots.

There will be parents' days when the mothers and fathers will come and see what the children are learning, and watch them playing their games and doing their P.T. There may even be a parents' association to help the headmaster in his big and difficult job.

The headmaster will insist that those children who cannot go home at midday shall bring proper meals with them. For those who are too poor, the school will itself provide the *midday meal*.

All this sounds very nice but you ask where is education going to come in? The answer is that this is education—the development of healthy citizens.

School Games. A good school team is a splendid thing but the main object of school games is to get every one playing. This requires much planning but it can be done. The ground can be used for big games, one class at a time, all through the day or all classes can play small games at the same time. To do this the ground is marked out for a number of small games. The children are graded for

size into groups and when the whistle blows each group takes its place in one game and plays it for several minutes. When the whistle blows again every group moves on to the next game and so on till the games period is over. The games should be marked out in such a way that all the running games or all the standing games do not come immediately one after the other.

School Gardens and Farm Plots. The school garden or farm plot should be a book of nature and science and a demonstration of good farming and gardening. Much can be done in a very little space and this is how to do it, when plans are drawn up season by season for the school garden and farm, every pupil takes a hand in the planning and knows exactly why each thing is to be done. Every child sees and understands each bit of work as it is done and the result it produces. Different varieties of seed are sown in small plots for each crop; various kinds of manure and different ways of cultivating are tried. Different quantities of water are given to different plots, some plots are hoed and weeded and some are not. Every kind of thing is tried, every pupil knows exactly what is being done and does his share of the work. He, or she, watches everything as it grows and writes down what happens, and the results of each kind of seed, cultivation, manuring and watering are compared. Before long it begins to be obvious what is good farming and what is not. The farm should be a live and fascinating hobby not a routine chore. (See GRAFTING.)

The children must always be allowed to eat the vegetables they grow and even to take home some of them to show their parents. It is mean and stupid to sell the vegetables and credit the school funds. Mean, because the children have grown them and are always hungry; stupid because instead of spreading the hobby of growing vegetables the school will make the children hate gardening all their lives, and their parents will never know what a splendid thing it was for their children to grow and eat all this good food.

Scout Law. This is the Scout Law:

(i) A Scout's honour is to be trusted.

(ii) A Scout is loyal to his country, and its constitution, his officers, his parents, his employers, and to those under him.

(iii) A Scout's duty is to be useful and to help others.

(iv) A Scout is a friend to all, and a brother to every Scout, no matter to what country, class or creed, the other may belong.

(v) A Scout is courteous.

(vi) A Scout is a friend to animals.

(vii) A Scout obeys orders of his parents, Patrol Leader, or Scoutmaster without question.

(viii) A Scout smiles and whistles under all difficulties.

(ix) A Scout is thrifty.

(x) A Scout is clean in thought, word and deed.

Scout Promise. On investiture as a Boy Scout, the Scout makes the following promise:

'On my honour I promise that I will do my best—

To do my duty to God and the country.

To help other people at all times,

To obey the Scout Law.'

Scout Troop. The earlier the boys join the Cub pack and Scout troop the more of the principles of Scouting will they absorb, and the more

they will enjoy it and the more good they will get out of it and put into it.

A troop should have three main purposes:

(i) *Games*. They should play all games, but they should select one of them and try to be really first class at it—unless they can be good at them all!

(ii) *Badges*. Select several and go all out for them. In a countryside where people settle their quarrels with axes and *lathis*, where disease and dirt and sudden death abound, the 'Ambulance', 'Healthy Man' and 'Public Health Man' badges must come very high on the list. That may mean hiking to the nearest doctor to learn them.

(iii) *Social Service*. Uplift and Scouting are of course the same thing and the troop must know and practise the whole uplift programme and do their best to get their parents and school and village to practise it too. (See SHOWS, LIGHT TRAP, LOCUSTS, PESTS, and PYRILLA.)

The Scout must 'be prepared'. That includes vaccination, and inoculation with of course a lot of other items of uplift. A Scout will not wear gold or silver trinkets but will have a Savings Bank Account. If he wears stockings he will keep them well darned.

Seed. For each crop the very best seed must be obtained either from the Government farm, *seed agency* or store, or from a neighbour, or by selection from our own fields. (See COTTON SEED.)

As we sow, so shall we reap. It is no use complaining of a poor crop at harvest time if we did not take the trouble to go a long way for the best seed at sowing time. If you want to get seed from Government or from a neighbour order it at harvest time so that it may be put aside for you. Otherwise when you want it there may be none available, or you may have to pay a much higher price for it than you would have had to if you had ordered early.

Finally, don't expect good seed for the price of bad seed or of food grain. Good things are not usually cheap, nor should they be. If good seed was as cheap as food grain, people would eat it instead of sowing it and if good seed fetches a premium people will be encouraged to grow it for sale. Good seed bought at a premium is actually cheaper than bad seed bought at the price of food grain, because bad seed contains a lot of dirt, and seeds of weeds and of other crops, and does not germinate as well as good seed.

The *distribution of seed* needs careful planning. Good seed will not last forever. After getting good seed from Government or elsewhere, you can use the seed you get from it for several years but you must then refresh it by again getting good seed from outside. All fields kept for seed must be carefully ROGUED.

A Co-operative Better Farming Society will make it easy to get and keep good seed.

Seed Depots. Government establishes seed depots and agencies where good seed can be got, but every co-operative society, court of wards estate, and big landlord—and every *shopkeeper* who sells seed—should be a depot for good seed, both for themselves and their neighbours. Everyone who grows crops or stocks seed should keep his seed grain separate from his eating grain and should keep nothing but selected and pure grain for seed.

Seed grain should be properly stored and properly dried before storing, to avoid loss by INSECTS or damp. (See STORING GRAIN and SMUT.)

Selective Breeding. Don't allow your animals to mate as they like, and don't allow them to mate at all if they are not up to the standard you want to reach.

Breed only from the best males and the best females. Never mind how much money or trouble it costs, get the very best male possible and before using it find out whether its mother and grandmother as well as its father and grandfather had the qualities you are looking for. If the male has already produced offspring see if they are as good as their father.

Select only the best females for breeding. Breeding good animals is often expensive, but keeping animals costs many times as much as breeding them, and good animals don't cost much more to keep than bad ones, but good ones bring profit and bad ones bring loss.

So breed only from the best and improve your *livestock* each generation. For the breeding of milkers see DAIRY.

All males not wanted for breeding should be castrated before they can do any harm by promiscuous mating. (See BURDIZZO.) Young bulls should be castrated when they have two teeth or earlier.

Selective breeding needs organization and system, so make a Co-operative Society to help you. Herd books must be kept, bulls must be selected and bought, cows must be registered, coverings must be accurately recorded—so must milk—and the cows and their young must be earmarked for easy identification. (See TATTOOING.) All this the society will help you to do, or do for you. (See MILK RECORDING.)

Selective breeding is no good without proper FEEDING and attention to HEALTH (see HEALTH OF ANIMALS) and all the other principles of ANIMAL HUSBANDRY.

Self-control. (See DISCIPLINE.)

Self-government. We citizens are Government now-a-days. We elect the members of the Provincial Assemblies and from them the Ministry is formed. We elect the members of *Panchayats,* municipal committees, Union Boards and District Boards.

They make the laws and rules and by-laws and tell us what taxes to pay. They spend the money raised by these TAXES.

As these men are our own elected representatives we must willingly keep the laws and rules they make and pay the taxes they levy. If we want more schools and roads and hospitals we must elect people who will levy more taxes. If we want clean and orderly towns and villages we must elect people who will make laws and rules that will enable the country to be properly run. If we want BRIBERY stopped we must elect people who will pay proper wages to all public servants—and if necessary make us pay more taxes to get the money—and will then join with us in stopping bribery. It is no use just grumbling about laws or taxes or dirt or bribery or anything else. We must see to it that the right people are elected to do just what we want done. If we elect people merely because they are our friends or relations or belong to our particular faction or religion, or if we elect selfish, greedy people who only want to become members for what they can make out of it, we must not grumble if the towns and villages are dirty, bribery is rife, the roads are not mended and the schools and hospitals are neglected.

If we want good Government we must tell the ministers and members, and urge them to get on with the work and re-elect those who do so, and refuse to re-elect those who try to make themselves popular by slack

and bad Government. Remember that nothing is so expensive as bad Government. The more efficient Government is and the better the laws are kept the more value you will get from your taxes.

Self-help. The secret of success in village life and everywhere else. Don't let us wait for Government or the District Board or anyone else. Let us do things ourselves and join with our neighbours to do them. In this way things will be done quicker, better and cheaper and will give us much more satisfaction than if we wait for someone else to do them for us—and in the end they may not do them at all or if they do, will put a heavy tax on us to pay for them. Whether it is killing locusts or getting quinine or a stud bull or mending the village roads let us do it ourselves. (See FREE ISSUES.)

Let us organize ourselves to provide as many of our needs as we possibly can. There is always plenty of time for work and it costs surprisingly little in money to make the villages comfortable and healthy. If we do all we can ourselves Government will have more money to do the things we cannot possibly do ourselves. But if we leave everything to Government then we shall get very little—except more taxes—as it costs Government and the District Board far more than it does us, to get things done in our villages.

The best way to do things is to make a *Co-operative Society*—in that way we all help each other as well as ourselves to do what we all want done.

Self-respect. It is produced by a good *upbringing* and can only be taught by trained mothers. When we grow up self-respect and self-control will keep us from dishonesty, from taking and giving *bribes* and from giving false evidence. It will keep us from doing bad or slovenly work. (See CRAFTSMANSHIP.) It will make us good citizens.

Service. It is the duty of everyone of us whether we are officials, doctors, engineers, lawyers, schoolmasters, politicians, postmasters, to help to raise the *standard of living*. (See PRIVILEGE and RIGHTS.) We must always support the *uplift* movement and never laugh at it. Wherever possible we must live the new life ourselves and do all the little things that mean so much in health, wealth and happiness.

To do this we must learn it, not vaguely, but in the fullest detail. This is not hard. It is all simple common-sense stuff and there is nothing that we cannot learn and understand in a very short time if we determine that we will do our share in this great work. (See TRAINING.)

Incidentally, our own health and welfare will be greatly improved by putting into *practice* the rules of the new life. By helping others we help ourselves. In fact our own welfare depends upon the welfare of others, as mankind learnt thousands of years ago when the principles of *civilization* were discovered.

Shamilat. (See COMMON LAND.)

Sheep and Wool. The most promising sideline of all for villagers. No attempt is made by the villagers at present to grade up sheep either for wool or meat, and the wool is dumped on the market in the crudest and least profitable way possible and often deliberately adulterated with a large proportion of dirt to increase its weight.

The English sheep two hundred years ago was much the same as the

Indian sheep is today, a raw-boned, flat-sided, coarse-wooled brute. Selective breeding, attention to disease, proper feeding and management have worked wonders in England and will do so in India and Pakistan; and in no branch of farming could improvement be made more quickly and more profitably than in sheep-rearing.

The proper method of shearing can be learnt from Government. This will mean more and better wool. The wool must then be sorted and graded, then cleaned and dyed, then spun, and finally turned into tweed cloth, *pattoo*, carpets, *durries*, socks, mufflers, vests and pullovers, and its value multiplied many times. All these things are taught by Government and can be learnt by those who are not afraid to work with their hands. Many industries, much work and much profit for many people. As sheep usually live in those areas where rain is scanty and the farmer is often idle and poor, particular attention should be paid to them, instead of as at present neglecting them and making little or no profit out of them. Co-operative societies will make it all easy, and still more profitable. (See FOLDING SHEEP.)

Sheet Erosion. When rain falls on unlevel land which is unprotected by thick crops, grass, bushes or trees, the drops stir up the particles of soil and carry them away down-hill. This is called sheet erosion. As the running water gets together it forms into little streams and starts *gully erosion*. Sheet erosion is not noticed by the farmer but it steadily washes away his *top-soil* and reduces the *fertility* of his land. Although they may not seem so to the eye all pastures and *barani* land are unlevel, unless they have been *embanked* and, where necessary, terraced. Therefore sheet erosion and gully erosion are spoiling all pastures and all *barani* land which has not been properly protected.

Shifting Cultivation. The farmer cuts or burns down the forest on a patch of land and ploughs it for a few years. When the rain has washed away the TOP-SOIL, he leaves it and moves on to another patch and does the same again. In this way forests are destroyed and the most terrible EROSION is caused and large areas of land are ruined for-ever. This is the most destructive and short-sighted method of farming in the world.

Shopkeepers should be modern minded and live with the times. They should stock the new things, quinine, good seed, good implements, needles and thread, good pictures, and do their best to encourage a higher standard of living.

Shows and Exhibitions. Extremely useful for encouraging all kinds of good work in the villages. (See PUBLICITY.) Besides all manner of competitions for *cattle, sheep, crops,* and vegetables, ploughing matches and so on, there are exhibitions and demonstrations for health, cattle, agriculture, *co-operation* and so on. To attract people, games and sports, *cinema, drama* and other kinds of entertainment are organized.

All shows, even one-day shows, require very careful planning to get the best value for the money spent

on them. The lay-out of the ground is important to ensure that, to reach the popular items, people shall pass through the less spectacular, instructional part of the show. The instructional part must also be very carefully planned to prevent the technical exhibits (where the selected few will discuss things with the *experts*) being mixed up with the popular exhibits (where laymen will demonstrate simple non-technical improvements to the general public).

The time-table must also be carefully planned. Something must be arranged not only to bring a good crowd onto the ground, but to have it there at the right times and places to see important things such as a parade of prize-winning cattle, the final of a ploughing championship, or to hear a 'big' man's words.

The smaller prizes must be given as the events are judged. Only the biggest prizes must be kept for a formal prize-giving. *Boy Scouts* can give great help with crowds and with demonstrating exhibits.

Poetry and drama competitions, dramas, processions, bands and singers, even *gramophone records* can help to bring crowds and teach uplift.

The exhibits must be closely related to the farming, rural industries, health and general life of the immediate locality. Relays of demonstrators are required for popular exhibits and laymen are just as good as experts for this. When the 'big' visitors go round let them ask what lessons each exhibit or demonstration is trying to teach the local people.

If your show lasts several days, you must spread out your big attractions, sports, wrestling, etc., so that each day a good crowd will collect and be sure that each day the crowd is at its biggest at the right time and place to see or hear something useful. Don't have all your 'big' visitors on one day; spread them over all the days of the show.

Shows must have special exhibits, special competitions, special times and arrangements for the *women*, to make sure that they too shall profit by it.

Sidelines. (See INDUSTRIES.) There are many ways of extracting value out of the land besides ordinary crop farming, but they all mean extra work, and when the farmer is already neglecting work—such as weeding, composting, etc., which will greatly increase the crops, what hope is there of persuading him to work overtime on sidelines?

Flour milling has in the last few years become a most successful village industry, but how many farmers own and work either a *kharâs* (bullock-driven mill) or a power-mill? Every farmer must look for one or more sidelines to occupy his spare time and to increase his income, and broaden his outlook. Such sidelines are fruit, vegetables—including all manner of new ones, even water-cress and medicinal herbs,—bees, poultry, sheep and wool processing, rabbits and dairying, silk-worms, and all the cottage industries.

To be successful it is most important to have co-operative societies for these sidelines.

Silage and Silos. A silo is a place where green grass and fodder can be stored and kept fresh for many months. In India and Pakistan it is usually a pit. All kinds of grass, jowar, maize, cowpeas, in fact any green fodder, even the leaves of some kinds of trees, can be put into a silo. They are cut when at their very best as fodder and lose practically none of their goodness in the silo and can be kept there till wanted—up to a year or more if necessary.

Silage is ideal for India and Pakistan. Everything grows all at once and very quickly, and therefore instead of being cut at the right moment much of it has to be left to wither before it can be cut. While withering it loses three-quarters of its food value. (See HAY.) You can make silage however, all through the monsoon, cutting and storing the grass and fodder crops as they grow, before you have to begin ploughing and sowing for the next harvest.

In this way you can lay up a supply of the most valuable and succulent fodder for the long dry season before the next monsoon, when there is nothing green for the cattle to eat.

Silage-making. You must get expert advice, as making a silo is a tricky job, till you have had some experience, but the main principles are as follows: The pit should be eight or nine feet broad and deep, with straight sides, and as long as you require for the amount you wish to make. Make a slope at one or both ends for carts to pass over it.

The pit must not be dug where the water level is high or where water can collect. The fodder must be packed tight and piled up to a ridge eight or nine feet high above the ground level. When finished cover it with coarse grass and pile on the earth you dug out of the pit. As it shrinks and sinks and the earth cracks, it must be carefully patched, as neither air nor water must reach the silage. Chop up the fodder if you can, before throwing it into the pit. If you put it in whole, lay it all one way. Use cattle and carts for pressing it down. Molasses will improve the quality if sprinkled over every layer of fodder as you put it in. Open the pit when you are short of green fodder. Remove the earth from a small section and take out the silage right to the bottom of the pit before taking off any more earth. Start with two seers a day, or even less for each animal, and work up to twelve or fifteen as they get used to it.

Silk. Not such a promising sideline as some, owing to low prices. But if the reeling and twisting of silk yarn for the weavers can be combined with the rearing of silk worms, perhaps it would be a useful sideline for the spare time of small farmers. Why should not the weaving of silk cloth be a village industry?

Silt and Sand. Silt and sand coming down in the water from the eroding hills, pastures and fields do infinite mischief:

(i) They cover the fields and make them barren.

(ii) They fill up river beds and therefore aggravate floods and compel those responsible for roads and railways to raise them above flood level and to build higher bridges to carry away the water.

(iii) They fill canals with infertile silt which is either passed on to the fields or has to be dug out of the canals at great expense.

(iv) They increase the volume of the floods and therefore make them do more harm.

Some rivers bring down fertile silt but that is quite different from the sand and rubble which is carried away by erosion after the top-soil is gone.

Single Purpose Co-operative Societies. For each definite need it is usual to have a separate Co-operative Society. Poultry keeping has its own society and so have bee-keeping, weaving, better farming, medical aid, consolidation of holdings, and every

other of the many tasks and businesses which villagers should be doing.

This enables the whole energy of the society to be devoted to the one job and it ensures that every member is interested in it. It does mean however that there may be several societies in one village.

In some parts of India and Pakistan multi-purpose societies are used, which include many kinds of activities. This enables each village to have one society only but as some members are interested in one activity and some in another, they do not all work together and the diffusion of effort may lead to less efficiency.

In the pre-partitioned Punjab *ex-service men* were being organized in multi-purpose co-operative societies.

Skim Milk and *lassi* are very valuable foods especially for children. They have all the good qualities, the proteins, mineral salts and most of the vitamins, of the milk except the cream or fat and that can more easily be replaced by other foods, than the rest of the milk.

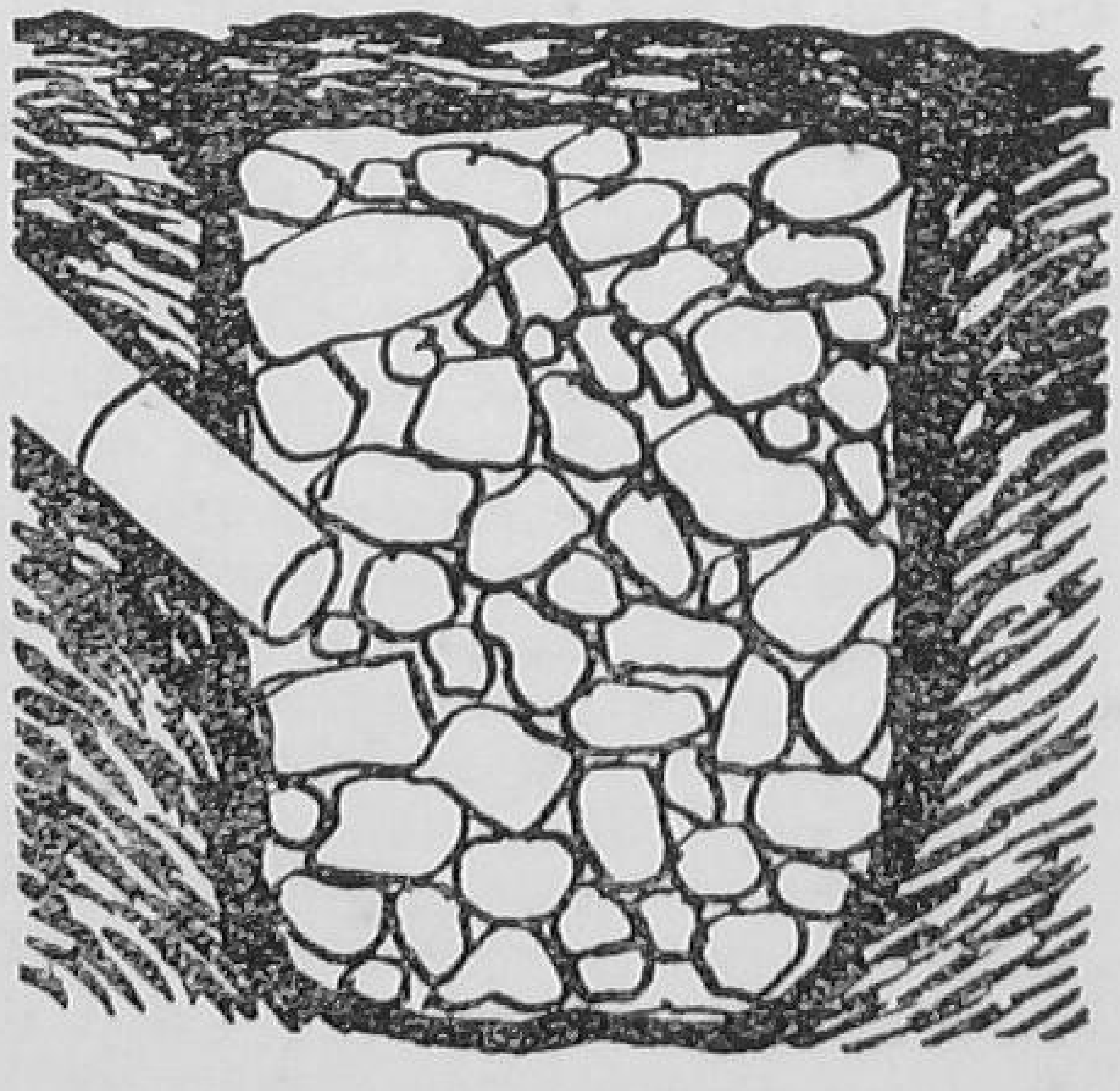
Smallpox. A very foul, dangerous and entirely preventable disease. It often damages or destroys the *eyes,* particularly of children. Smallpox is a *dirt* disease and therefore *cleanliness* and *light* and *air* will help to keep it off. But nothing but *vaccination* and re-vaccination will keep it off altogether. These should be compulsory and no one should be allowed to avoid them and thereby help to keep the disease going, either by reason of fear, prejudice or sentiment. Smallpox could be driven clean out of India and Pakistan if a really serious attack was made upon it. When there are already plenty of other diseases to fight, why allow a completely unnecessary one to continue killing, maiming and disfiguring our children and young people?

Smoke hurts eyes and makes walls and ceilings dirty and gives the house a squalid appearance. Smoke is quite unnecessary. (See CHIMNEYS.)

Smut. Black smut is a *disease* of wheat. The ears turn black, and, when shaken, a black powder blows away like smoke and infects other ears. Year by year it gets worse till it may destroy a large part of the crop.

The Cure. While the crop is growing carefully break off the black heads without shaking off the black dust and put them in a sack and burn or bury them. The disease is carried from year to year by the *seed* grain, so for next year take the grain you want for seed and on a very hot day in summer wash it in water for several hours, and then dry it thoroughly in the sun for several hours before putting it away. Clean out your grain bins properly before *storing* wheat or any other seed.

Soak-pit. If dirty and waste water (see DRAINS) cannot be run to



the vegetable patch or the fields it must be run into a soak-pit. A soak-

pit is a deep pit filled with broken bricks, rubble, etc., and covered over with earth. The water should run into it below ground level if possible, to avoid mud and stench. To do this a short pipe is wanted for the last two feet or so of the drain.

The more clay in the soil the slower will water be absorbed; and the bigger will the pit have to be. Where a soak-pit is impossible a *sump* must be used.

Soap-making is easy to learn and is a very useful sideline for anyone with spare time, either for home use or for sale.

Soil. We abuse our soil for not giving us the crops we want but the soil is largely what we make it by our brains, our sweat and our money. Our soil is like our cattle; unless we feed it and look after it, it will not work for us. The food of the soil is manure and water, and we look after it with ploughing, harrowing and weeding, embanking and terracing and by rotating our crops. It is no use grumbling at our poor crops if we starve our soil and let it be washed away by the rain or blown by the wind, or become so weak by *bad farming* that it cannot produce good crops. (See TOP-SOIL.)

Soldier, Sailor and Airman. Each must regard the Armed Forces as a college and learn all he possibly can while he is there, so that when he returns home he can make his own home healthy, happy and bright, make a good livelihood by farming, gardening, or some other craft or *sideline*, and help to *raise the standard* in his village, and generally to be a good citizen and become a leader in every useful activity.

He must therefore learn to be a handy man in the Army, learn any trades and crafts he can, learn all about health and hygiene, co-operation, poultry, bees and everything else he possibly can. Wherever he goes he must keep his eyes open and visit farms, workshops, and any other interesting thing in his neighbourhood. He must learn to save and put by as much as he can in the *Savings* Bank, to give him a start when he gets home. When he goes home he must take with him not cash but a Savings Bank Pass Book. The difference between money in the Savings Bank and money in the pocket when he goes home, will often be the difference between being his own master or someone else's servant. He must learn that all honest work is honourable and it is only idleness that is dishonourable. He must learn the importance of educating his womenfolk and making them equal partners in the work of raising the *standard of living*. The soldier must lose no opportunity of experimenting with designs of *chimneys, hayboxes* and all the gadgets he will want in his home later on. (See DOMESTIC ENGINEERING.)

The soldier may not be able to learn a complete trade while in the Forces but he can do several things. He can break down all prejudices about working with his hands, he can be convinced of the dignity and the glory of good *craftsmanship*, he can supple his fingers and learn to co-ordinate hand, eye and brain, he can acquire a taste for handicrafts and creative work, he can learn the value

of up-to-date methods, designs and machines, and he can get confidence in his own ability to learn new things. He may not be able to make use of the actual crafts he learnt in the Forces but having learnt one or two crafts he is quite certain that he can learn any other which he finds will pay him better when he leaves the Forces.

Songs and Glees are very useful both for entertainment and instruction. (See RECREATION.) Excellent songs can be composed about all the many things that we want the villager to do, and he does not mind being taught something by means of music, as long as the music is good. But don't write drivel and call it a song. The song and the tune and the singer must all be the best.

Sprouted grain. (See PULSES.)

Stables must have plenty of ventilation. Put *ventilators* in the ordinary places just as you would in your home and put extra ventilators just above the mangers. Keep plenty of clean water always standing where your cattle can reach it and drink whenever they want to. The earth on the stable floor must be changed every now and then; so must the bedding when it gets soaked in urine. The stable must have a good pucka drain, running either to the manure *pit* or to a pucka *sump*. The sump must be regularly emptied into your manure pit and all the bedding and floor earth must go there too as it is all extremely valuable manure.

Stall-feeding. To prevent EROSION stall-feeding must take the place of *grazing*. GRASS must be cut and carried to the animals in their stalls and fodder crops must be grown in the fields. SILOS must be made whenever possible while the grass is growing.

This will all mean much hard work and a complete change in their manner of living for many millions of people (see DISLOCATION and HILLMEN) but it will mean more milk, more meat, better animals, more wealth and more opportunities for profitable work. The alternative is more and more poverty, more and more starving animals until finally the hills and PASTURES will support no human or animal life and the people will have to go elsewhere to seek a living, as has already happened in many countries of the world and even in our own lifetime is happening in some.

Stall-feeding has other great advantages. First, people will not cut grass for useless animals. These will therefore disappear, and SELECTIVE BREEDING will begin and LIVESTOCK will steadily improve and we shall have a smaller number of better and better animals instead of hordes of useless starving beasts. Secondly, stall-feeding means the collection of all dung and urine for use in the fields. When animals go out to graze most of their dung and urine is lost to the farmer.

Finally stall-feeding is essential for milk production. (See DAIRY.)

Stand up to Work. Many kinds of workmen squat on the ground to work. The carpenter and the blacksmith work on the ground, the farmer and gardener squat down to weed their fields. Those who squat to work lose the value of their weight and of all their muscles except those of their arms; their movements are bound to be jerky. Those who work standing up can apply their whole weight and all their muscles to their work. This means stronger, steadier movements and therefore a

greater and more balanced output of strength. The result is more work and better work. All training schools should insist that no work that can be done standing up shall be done squatting down. The *darzi* and the weaver must sit down to their machines but the carpenter and blacksmith must stand up for their work. The farmer and the gardener must weed with a long-handled hoe. Even the housewife will find that her work will be easier if her *chula* is two or two and a half feet above the ground and she works on a table instead of on the floor.

Once people work standing up at benches and use modern tools, modern methods and modern designs, the indignity of labour will cease, and this is one way of attacking the prejudice against manual work and crafts.

Standards. A country's progress depends on the standards of its people, their standard of living, their standard of honour, of self-respect, of honesty, of self-control, and of workmanship. Our standards depend largely on our *upbringing* which is in the hands of our mothers, who therefore must be carefully trained for this great task. (See DOMESTIC TRAINING.)

Standard of Living or civilization does not consist merely of wealth nor does it depend solely on wealth. (See IDEALS.) A certain amount of money is required for a high standard of living, but many poor people have a higher standard than many rich people. Man has a mind as well as a body and a higher standard of living must cater for both. If either is neglected man cannot be really happy and his standard of living must suffer. *Idleness* and ignorance are as fatal to man's standard of living as dirt and ill-health! They produce *apathy, faction*, quarrelling, waste and a refusal to look at or try new ways. The standard of living is very much the standard of the home so that the *women* must play as great a part, or even greater, in raising it than the men. Cleanliness, ventilators, chimneys, sanitation, good health, simple but well-balanced diet, knowledge and education, culture, the good use of leisure, kindness to children and animals, the growing of flowers, craftsmanship, co-operative societies, panchayats—all these are marks of a higher standard of living.

Dark smoky homes, dirt, flies, disease, crude displays of ornaments, wasteful expenditure of money, idleness, ignorance, quarrelling, faction, are all marks of a low standard.

A good craftsman busy in a small courtyard with a patch of gay flowers has a higher standard of living than a rich illiterate man sitting idly smoking a hookah in a dirty, untidy courtyard.

Stipends. Regular monthly payments are often made to people for keeping cows or other 'approved' *livestock*. This is not the best way to spend money on encouraging *animal husbandry*. Once a man has secured a stipend he can take it easy and just do the minimum necessary to avoid forfeiture of his stipend. Other people may envy him but are not encouraged by his stipend to do their best as they know how difficult it is to forfeit a stipend once awarded and therefore how small their chance of getting one, until some stipend-holder dies! The best way to spend money on stock-breeding is to give prizes and premiums at regular intervals in open competition, so that everyone is doing his best all the time to win a prize or premium at the next distribution and no one has a certainty of getting or keeping one

without doing his best all the time in competition with everyone else. (See SHOWS and ONE-DAY SHOWS.)

Students. Both boys and girls should be the most enthusiastic uplift workers. They must learn the whole programme most carefully at school and college and live it and practise it in every possible way. They will help their parents to put their own homes right and having done that they will visit villages whenever possible and work with their own hands. Preaching is far less important than practising, so it is most necessary that they should believe in and live the new life themselves.

Stupid. Many people think the villager is stupid. No, he is far from stupid. He has the wisdom of ages behind him, which has enabled him to feed the whole world since the dawn of time. He speaks slowly because he has to draw on that wisdom for his answer.

He knows more about the weather, when to plough, sow and reap than anyone can tell him. He can keep, train and work all manner of animals. He can work on the land and in the forest. He can obtain and use the water from well, river and tank. Who then dare call him stupid? Call him conservative if you like. He has reason for his *conservatism.* Nature does not change and the villager hesitates to change the old ways which have served him well in the past. His real trouble is that the whole world is changing faster than he can adapt himself to the *changes.* And the reason he is slow to adapt himself is that, through no fault of his, he has very few means of learning what is going on outside his village. He can rarely read or write, the school teaches him very little and much of that little is of the wrong kind. He has no *radio,* and no *newspaper* suited to his needs. He is very rarely visited by anyone who can tell him anything useful. Most of his visitors come for their own purposes; not to help the villager.

We can and must help the villager to solve the problems that modern conditions have brought to him and to improve his life and his livelihood, but we must approach him with humility and respect and with a sincere desire to help him and not ourselves.

Storing Grain. Enough grain, to feed millions of people, is lost every year by bad storing. It is lost by:

(i) Weevils and insects. Before storing grain or seed, clean out your bins and stores. Burn them out with *bhoosa* to kill every sort of weevil, insect or germ that may be there. The inside walls of grain bins and stores must be smooth and without holes or crevices. Cement plaster will do this. Gammexane or D.D.T. will also kill weevils. Keen farmers will also *fumigate* their grain and seed stores.

(ii) Rats and mice. The bottoms and floors, and walls and sides of all bins and godowns, for at least two feet up, should be of cement concrete to keep out rats and mice.

(iii) Damp. Either the grain is not dried properly before storing or the damp gets into the store-room below or above. See that the lids or roofs are sound and will not let in the damp or the water, and that the bins and stores themselves are not standing in places where water can collect. Always dry grain thoroughly before storing.

Subscriptions. If we can afford it, it is our duty to subscribe to

and join all the societies and institutions that are founded to help us live a better life—such as Red Cross, Boy Scouts, Girl Guides, our local Hospital or Dispensary and Rural Community Council. At weddings and such-like events we should always give subscriptions, particularly for women's welfare work. We should subscribe to and read our District village newspaper. The more people that subscribe, the more money for the work and the greater the confidence and enthusiasm of the workers.

Subsoil is the soil under the top-soil. It has very little fertility, and once the *top-soil* of a field or a pasture has been washed or blown away by *erosion* it may be very many years before the field will produce good crops again or the *pasture* good *grass.*

Sump. A small masonry pit for waste and dirty water. (See DRAINS.) Sumps have to be used inside the village where there is no suitable village drain and where a *soak-pit* is impossible. They must be regularly emptied to prevent them overflowing or breeding mosquitoes. These masonry sumps should be inside the compounds, not in the streets where they will be a nuisance and are sure to be neglected.

Sweepers. India is the only country that delegates its most important work—sanitation—to a special community and then regards that community as untouchable. The result is that while we all claim and freely exercise the right to make the place dirty, we repudiate the duty of cleaning it up afterwards! Until UNTOUCHABILITY is banished and the DIGNITY OF LABOUR and of CLEANLINESS exalted, India cannot be clean or healthy.

Tattooing. Cattle lifting is a curse. The reason why it still thrives is that no one can prove without the very greatest difficulty that any particular animal belongs to him. Once an animal can be identified for an absolute certainty, *cattle-stealing* must stop as every man caught with other people's cattle can be easily convicted and imprisoned by the law courts. This can now be done. A permanent mark can be made in the ear of an animal with a tattooing punch and a special ink. With the help of the alphabet and the numerals, and perhaps other symbols, a code of marks can be produced by which cattle can be easily and certainly identified. Tattooing is not much more painful than inoculation.

Every animal tattooed must be entered in a proper register and the whole business must be carefully controlled and supervised, so that the registers can be accepted as satisfactory evidence by law courts.

A beginning was made in the Punjab but did not get very far on account of the last war. The system is bound to be elaborate, but it will stop cattle stealing if the cattle thieves and their highly-placed patrons do not succeed in wrecking it, and if Government and the people and their *co-operative societies* and *panchayats* all genuinely work together to make it a success.

Tattooing is also necessary for the *selective breeding* of cattle, and for *milk recording.*

Taxes. India has lower taxes than most countries and therefore there is not enough money to pay for the services and good things which are provided by Government in many other countries. If India wants progress she will have to pay higher taxes. She has SELF-GOVERNMENT now therefore Members of Assemblies, Local Bodies and Panchayats must be prepared to levy higher rates and taxes, and those who can pay must pay cheerfully.

Even when taxes are higher, the public money will not go very far and people must do all they possibly can with their own money. (See FREE TAXES.) CO-OPERATION helps to give poor people the resources of the rich.

It is the first start along the road of progress which is difficult. Once things start moving, progress will be continuous. If people will do all they can with their own money and labour, by saving all they can and wasting nothing, and by working together and working with Government, and paying all the taxes they can, they will produce more and more wealth for more and more progress and more and more money for Government and a higher and higher standard of living.

Teasels. A valuable crop for hill farmers. The heads are used in the woollen industry—Consult the *Expert* about growing it.

Terracing. (See EMBANKING.)

Threshing is now done very slowly by bullocks walking round and round and treading the corn out of the ears. These bullocks would be better employed either resting or lifting water or getting the land ready for the next crop. We believe threshing machines could be worked by bullocks if the whole business were divided up into separate jobs. Three would probably be ample. (i) Cutting the heads off the stalks. (ii) Threshing the heads. (ii) Winnowing. The straw could be cut up for fodder by a *chaff-cutter* and the cattle would soon get used to eating chaff instead of *bhoosa*.

Thrift. The foundation of a higher standard of living is thrift. No farmer can hope for bumper crops every harvest, no craftsman can hope for high prices all the time, no one can be sure of health or of employment for ever. If we do not learn to put something by, to tide us over the lean years that are bound to come, we can never rise permanently in the scale of human existence. It is no use working up to a decent standard, only to have to let it all go again every time something goes wrong. And wrong it will go occasionally, however well we work. Many of our troubles can be overcome by our own efforts and intelligence, but some can't.

In other countries people save for a rainy day. In India and Pakistan there are dozens of difficult days to save for, such as floods, drought, hail, locusts, blight, ill-health, accidents to animals and machines, unemployment, changes of fashion, and worst of all perhaps, low prices.

The villager lives from hand to mouth, spends as he earns and borrows at the slightest excuse. All this must stop. He must only *borrow* for his business, handicraft, farming, or whatever sidelines he develops for his spare time. All other expenditure must be from *savings* and therefore the villager must immediately start to pinch and scrape in order to save. Every time he thinks of spending or borrowing he must ask himself and his wife, 'Will this spending or borrowing help me to improve my house,

my workshop or my farm?' In nine cases out of ten he or his wife will easily be able to answer 'No' to the question, and then the money must not be spent or borrowed. Present extravagance must give way to future security.

Savings grow, and once they have begun to grow there will be money for good seed, good cattle, education, books and newspapers, medicines, doctors, recreation, weddings, festivities and other things necessary to health, happiness and a higher standard of living. But as long as the villager borrows for all purposes there will never be money for any good purpose. All borrowing must be from a co-operative society and all savings must be put into a Post Office Savings Bank, the Co-operative Society, carefully selected insurance policies, or some other properly run thrift organization. Savings brings safety. (See INTEREST and CREDIT.)

Tidying up the Home. Besides *light and air* the home must have *chimneys* for every *chula* inside or outside the house. The *chula* must be specially built. All boxes and bins must stand on bricks several inches high and several inches from the wall so that rats and mice cannot live under or behind them. There is a hand-pump (see DRINKING WATER) in the courtyard, there must be a pucka *drain* taking waste water to a little patch of flowers and vegetables or, if that is not possible, to a *soak-pit*, or to a *sump* which is regularly emptied, or if the street has a pucka drain it may be joined to that. There must be *pictures* and decorations on the wall. Everything must be neat and tidy. The courtyard must also be neat and tidy with its bright little patch of *flowers* and vegetables, or perhaps a *papita, kagzi, nimbu,* pomegranate, grape vine or banana clump.

Tidying up the Village. Villages look very untidy and are often very dirty and neglected. They must be cleaned regularly every day and once a week, on the evening before the *day of rest*, if there is one, or first thing that morning, there must be a special clean-up. All waste water must be taken away in pucka channels (see DRAINS), all depressions must be filled up or drained. All unwanted *ponds* must be filled in. There must be a circular road round the village. Inside that road everything must be kept scrupulously clean; no ponds, no *pits*, no rubbish; ruined buildings must be cleared away and the ground levelled and tidied. Outside the circular road must be the pits, neatly aligned as tents in a military camp. The *Consolidation Co-operative Society* when it has done the fields can turn to the village and organize all this tidying up.

Top-borer. (See PYRILLA.)

Top-class Societies. Co-operative societies are divided into several classes according to the way they work. The lowest class gets no benefit from *co-operation* and should either improve itself or close down. Everyone must try and get his society into the TOP-CLASS and keep it there.

The marks of a good society are the work it does, the interest shown

by the members in the proceedings and their knowledge of the rules, the absence of parties in the society and the quick payment of all money owned.

In societies where much money is handled a good society spends wisely and pays dues promptly, has plenty of reserves, deposits by members, and owned capital of various kinds. It does not make big loans to committee members, and it has debt-free members who joined not for what they could get out of the society but to help their neighbours.

Top-soil. Top-soil is the *soil* lying above the subsoil. It may be a very few inches deep or it may be a foot or more. It contains most of the fertility of the land. It is formed from the subsoil with the help of the wind and the rain and the sun, the heat, the cold, the grass, crops, plants and trees that grow in the land, and their leaves, stalks and roots as they rot, the dung and the dead bodies of birds, beasts and insects, and by the work of innumerable worms, insects and other creatures, visible and invisible. Good top-soil with plenty of manure and vegetative matter holds up the rain water like a sponge.

On uncultivated land top-soil may take hundreds of years to form—and may be washed away by one rain storm where man by his ignorance or carelessness has exposed it to the rain. On cultivated land it is more quickly formed and it is the duty of the farmer to increase it and make it more fertile. (See SOIL.)

Town and Country must work together. They need not be rivals, each trying to do the other down, the town always wanting to buy its food and raw materials cheap and sell the products of its industries dear, while the village wants to do the exact opposite. There is no real clash of interests between the two. Neither can get on without the other and neither can thrive if the other is in trouble. Each wants to trade with the other and if each buys and sells at fair prices both will prosper.

The town gets its health from the countryside in the form of fresh air, recreation and *fresh food* and in return shares with the villager the universities, libraries, picture galleries, concerts and museums, lovely gardens and places of worship which the villager cannot hope himself to produce.

Both town and country must work hard, avoid waste and strive to make progress, and then both of them will be peaceful and prosperous together.

Aesop's famous fable of 'The Belly and the Members' explains the position of the town and the country. In that fable I think the hand refused to do any work for the stomach as it thought the stomach was an idle fellow! But it soon found that by starving the stomach it was starving itself!

Towns. If you live near a town study the town markets most carefully and see if you cannot grow or make something that is fashionable there, and send it in a lorry for sale. But be always on the look-out for the fashion to change, and then be the first to switch over, if you can, to the new fashion. In this way you may be able to make good and quick profits. There will always be a good sale in the towns for fresh vegetables, fruit, milk, ghee, eggs and chickens. If you form a Co-operative Society it will help you both to study the markets and to grow or make, carry and market the things which will sell best, and it will help you to prepare and pack them in the way which will make them most attractive to the town customers.

Townsman. Most of what is written in this book is just as necessary for the townsman as for the villager. He has the same need and more opportunity than the villager for *co-operation*. By co-operation he can get an ALLOTMENT, good RECREATION, games, RADIO, READING ROOM and library, swimming, hiking, whatever he wants. He can get good food with the help of a CONSUMERS' CO-OPERATIVE SOCIETY. He has a Post Office handy for a SAVINGS BANK account and his wife can have a CO-OPERATIVE WOMEN'S INSTITUTE and a Health Centre. His children can have SCOUTS, GUIDES and games clubs.

Many things are much easier for the townsman, but as he is living in a crowded area he must be much more particular to keep all the rules about CLEANLINESS and sanitation. The townsman must pay his taxes willingly, obey the rules and by-laws of the town, take an interest in the government of his town, vote for members who will do their best, not for themselves and their friends, but to make the town clean and nice and to see that the schools, hospitals, roads, drains, latrines and water supply are the best possible.

Towns even more than villages depend for their health and comfort and happiness on keeping the two great laws of CIVILIZATION.

Tradition. (See CUSTOM.)

Training. Training is most essential for the success and permanence of *uplift*. *Government servants* of all kinds and grades must be fully trained in the whole uplift *programme*. (See ACCURACY.) The wives of all who work among the people must have full domestic training. All revenue staff must have a special training in the causes and cure of *erosion*. Co-operative staff and the office holders and committee men of the societies must have special training in the principles and practice of *co-operation*. (See CO-OPERATIVE TRAINING.) *Soldiers, sailors and airmen* must learn all they can in the Forces. The *Patwari* must have a full uplift training. *Village guides*, both men and women must be fully trained. All leaders must learn the programme. Every boy and girl who goes to *school* or college must be taught the new way of life.

In all cases learning and training must be followed by living. It is no use learning, without PRACTISING what we learn. People copy what we do, not what we say.

Trenching is one way of using MANURE—perhaps the best of all. Dig a trench a yard wide and a foot deep. Fill it with dung and every kind of rubbish, litter and sweepings. Cover it up with earth got by digging a similar trench alongside it. Fill the new trench with manure, cover it with earth from a third trench and so on all round the field until you come back to where you started, and fill in your last trench with the earth from the very first trench. You will then have a layer of manure a foot below the ground all over the field. This will rot down to a ribbon of manure an inch or so thick which will never be disturbed by the plough and will hold moisture and give you excellent crops for many years, renewing itself with the roots of the crops that grow down into it for the manure and water they find there.

Tuberculosis is spreading terribly in India and Pakistan. It is a *disease* of our modern artificial life, so, back to nature is the prevention—plenty

of *light and air,* fresh simple *food,* good exercise. Not every villager with tuberculosis can go to a sanatorium but the villager can do several things: (i) Don't hide it. Given a fair chance nature will win, so at the first suspicion take the patient to a doctor. (ii) As far as possible segregate those with tuberculosis from the rest of their families. Make shelters for them on the roof. (iii) Their sputum must be collected in a broken crock or cigarette tin and burnt. (iv) If they must enter the same room as anyone else, see that the room has plenty of light and air. (v) Good food, rest and fresh air are the best medicines.

Twin Ponds is one way of stopping the eternal *digging* of earth. Two ponds are dug side by side, or the existing pond is divided in two by a bund. They are connected by a pipe. One pond is used for water, the other for digging. When digging has gone on long enough the pipe is opened and the water drained into the 'digging pond' from the 'water pond', which is then used for digging. When that has had its turn for digging, the water is transferred back again and the first pond is again used for digging, and so on, turn and turn about.

Untouchability. One of the ways of helping in a practical manner to kill untouchability would be to remove one of its main props, the carrying of night-soil. Many missionaries have done this for their homes and quarters by using the bore-hole or one or other of the septic-tank latrines. One missionary (The Rev. F. A. Peter of the Canadian Mission, Palampur, Kangra District, East Punjab) has invented an extremely cheap pull-plug latrine which can be fitted into any village house with a reasonably large courtyard. Some such latrine should be used for all residences where drains are impossible, and for rest houses something should be devised which is suitable for occasional use only. Either flushing latrines or some sort of hole in the ground or some form of septic tank should be the absolute and universal rule and, except in sick-nursing, where no stigma attaches, on no account should any human being have to handle crude night-soil. This stuff must never be 'man-borne'. It must either be water-borne, or go into the ground and stay there till it has rotted into a harmless and odourless earth, when it can be dug out and used as an excellent manure.

Upbringing. From the day a child is born it must be taught regular habits. It must be fed at regular intervals, not whenever it cries. It may be crying because it has indigestion from drinking too much milk or from being fed too soon or too often!

From a few months old the child must begin to be taught clean habits, to do its *peshab* and *tatti* at regular times and in a special pot. Later it is taught other clean habits, to wash itself, not to scratch itself or pick its nose, etc.

As soon as it can talk it is taught to pray to God, to say 'please' and 'thank you', and to keep its tongue clean. In this way are laid the lifelong foundations of self-respect, self-control and discipline—the main elements of *citizenship,* upon which the future of the country depends.

A child's character is largely formed by the time it is six or seven years old. (See WOLF CHILDREN.) This work therefore must be done in early childhood. It will be too late if it is left till the child goes to school, and the child will never have that grounding in character-training which will make him a good, steady

and disciplined citizen in after life.

No one can do this work but mothers and mothers cannot do it unless they are trained. All girls and women therefore must be fully trained for this, the most important of all national work. (See DOMESTIC TRAINING.)

Upla. (See DUNG-CAKES.)

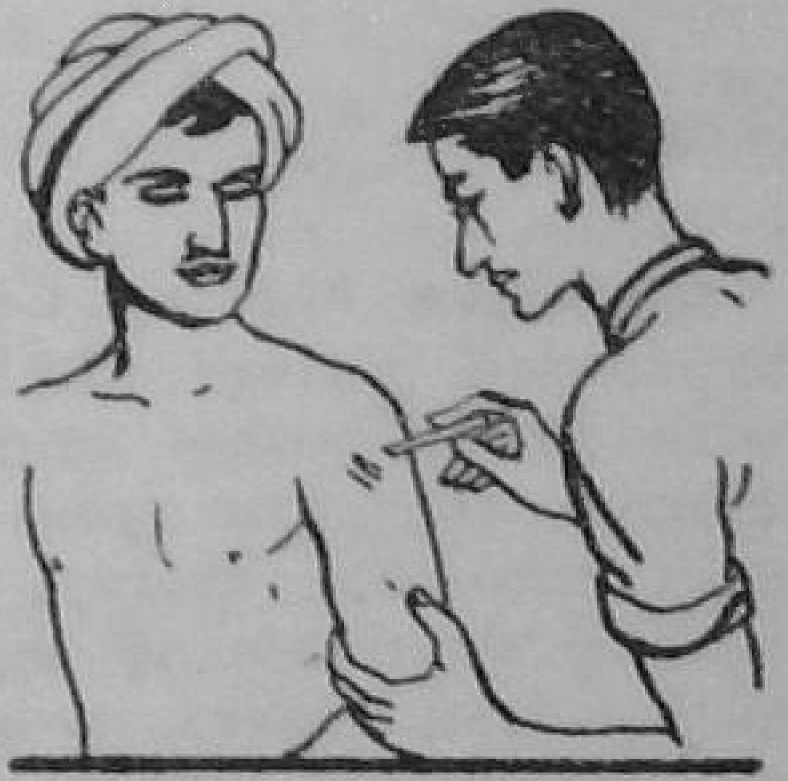
Uplift. To achieve a higher *standard of living* the villager must work hard, work with his neighbours, and work with Government. His greatest ally must be his wife; without her active help he will make little progress as the standard of living is the standard of the home and she is in charge of the home. To play her part she must be trained and educated and treated as an equal partner in this great enterprise. (See DOMESTIC TRAINING and UPBRINGING.) The villager must save, scrape, and deny himself such luxuries as *faction, litigation*, ornaments, expensive weddings and other ceremonies; he must sacrifice present ease and pleasure in favour of future security; he must use his *brains* and learn all he can, whenever and wherever he can; he must go as far to see and learn new things as he used to go for weddings and litigation; he must not be afraid of trying new things, he must waste nothing, either time, money, health, manure or water.

His whole life, thoughts, time, labour and money must be devoted to improving the wealth, health and knowledge, and the bodies, minds and souls of himself and his family and his fellow-villagers. He must never be weary of this work, never grow slack and never be discouraged by failure or setbacks or by the slowness of his progress.

The new life need not be dull. He can still have pleasures and recreation, village games and tournaments, shows, competitions and *melas*, radio and picture papers. Every courtyard will be gay with flowers. His wife can still have nice clothes and ornaments for herself and her children—but she will make the clothes herself and the ornaments will be bought from SAVINGS and will not mean generations of debt.

All this means a great CHANCE in the villager's way of life but it also means health and HAPPINESS and is the only way of securing them. Without new IDEALS and a strong CONVICTION and powerful INCENTIVES he will never set about the long task of RAISING his standard of living.

Vaccination must be done as soon after birth as possible and then again every four or five years until you are grown up. It may be repeated when the disease appears in an epidemic form. Vaccination and re-vaccination should be compulsory for all people, without regard to any prejudice or sentiment. No one should be accepted for State service unless he has been fully vaccinated and re-vaccinated; nor should anyone be allowed to occupy Government bungalows or quarters. Every school and college should have vaccination registers with columns for each vaccination, and the head master or principal should be responsible that vaccination and re-vaccination is regularly done and recorded.



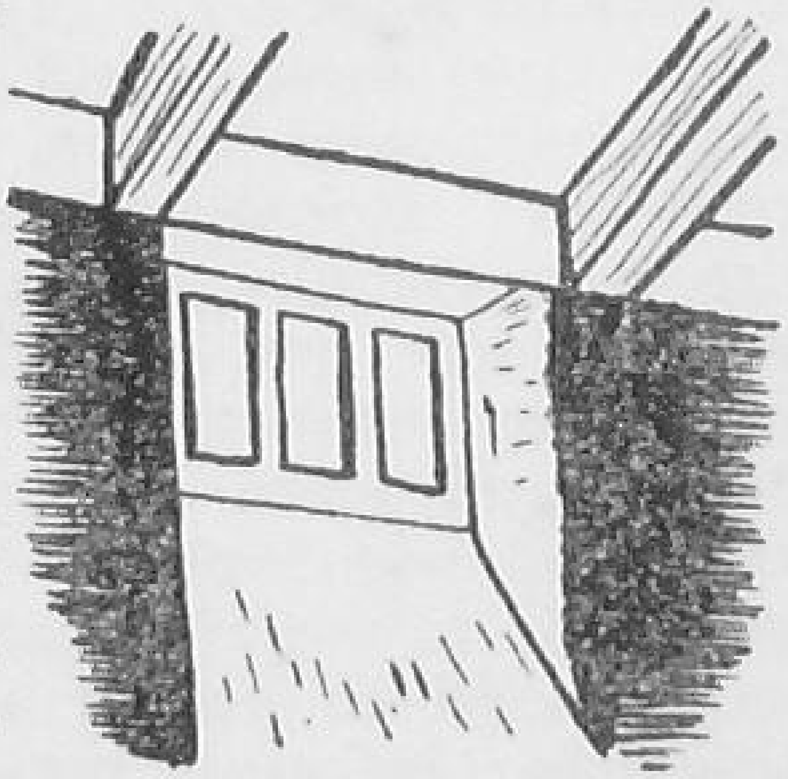
There are many places on our arms and legs where vaccination can be done and it should be settled by the Health authorities where the first, second, third and subsequent vaccinations shall be done. When a child first enters school the teacher will examine the place chosen by the Health authorities for the primary vaccination. If he finds the mark he will enter it in the register and go on to have the child re-vaccinated in the appointed place and enter that too in the register. If he finds no mark in the allotted place for primary vaccination he will have the child vaccinated there and enter it in the primary column in the register. And so he will go on. When the boy leaves the school or college he will take a copy of his vaccination record with him. This will make vaccination simple and certain and by fixing places for each vaccination it will be quite easy to check which vaccinations have so far been done. There is absolutely no excuse for allowing smallpox to continue to thrive and spread when it is easily within our power to stamp it out.

Vegetables. (See FRUITS.)

Vegetative Mat or Cover. If left to herself nature clothes the land with grass, bushes and trees which receive the rain and help it to soak into the ground without disturbing or removing the soil. The grass, dead leaves, twigs, roots and everything else make a mat or a sponge on top of the ground which protects the *soil* and soaks up the rain, and steadily increases the quantity and quality of the *top-soil* and its capacity to hold water.

All this beneficent work of nature is destroyed by *grazing*. Once grazing has stopped the villagers, particularly if they have made a *Village Co-operative Forest Society*, can in consultation with the forest officers decide how they will restore the vegetative cover of the soil. A heavy cover of trees will stop all erosion and so will a good crop of grass and bushes. A balance between trees, grass and bushes must be struck which will stop *erosion*, suit the needs and promote the welfare of all concerned, including the people in the plains below. Lopping of trees must also be regulated by a proper *rotation*.

Ventilators. *Light and air* are as necessary to health as food and water. They are obtained by ventilators. These must always be kept open. Therefore they must be of the non-shutting kind, or else the housewife will shut them and forget to open them again. It is better that dust or even rain should come in than that your health and that of your family should be spoilt for want of air.



They must be fixed just below the roof or ceiling of each room, one for every twelve feet of wall, both sides of the room. This will give you a proper current of air to take away the used-up air which rises to the top of the room. The ventilators should be two feet long by one foot high, in a wooden or reinforced concrete frame with half-inch mesh wire-netting to keep birds out. There must be no glass, and wire-netting is better than gauze as it lets out the insects that fly in at the door. You can put iron bars outside the wire, if you like, for safety; not inside the wire, or the

housewife will stuff cloth behind them and block the ventilator.

Fix the frame near the outer edge of the wall and cut away the wall on the inside to a long slope below and on both sides of the frame. This will let in plenty of light and it will shine downwards and sidewards. Plaster the wall inside and outside the ventilators with white clay or whitewash to let in still more light. Fix a shade if you like on the wall outside, just above the ventilator to keep out rain and sun, but do not put it so low that it keeps out too much light.

Houses should never be built back to back. If you live in such a house you must have roof ventilators, as well as the wall ventilators on the outside walls. A roof ventilator is a galvanized iron pipe (painted white inside) a foot wide and several feet high with a cowl on top (also painted white inside) to keep the rain out. A plain hole in the roof is not good as it is so easy to block up! Even these may be impossible in some houses, but remember it is cheaper to pull down houses and rebuild them than to get rid of diseases, e.g. tuberculosis. Once they get into your airless home, disease and ill-health cost far more than whatever alterations are necessary to make your home healthy.

Veranda. A missionary friend once showed me how he solved the problem of the waste water of his hand-pump (see DRAINS) in a tiny courtyard in a town. He did not like to let the water run out into the street so he dug three big holes and filled them up again with earth and manure. He then planted three grape vines of the best sort. He ran a pucka channel from his hand-pump to the vines and they quickly grew with this daily supply of water. As they grew he trained them to make a veranda-like shelter against his house. In the winter the sun shone through the leafless boughs, in the summer he had lovely shade, and when the grapes ripened, he had a maund of luscious fruit for his children and his sick friends.

Veterinary First-aid Co-operative Societies. Several members have a short training in simple veterinary work and the society buys a few medicines and instruments which they have learnt to use. A veterinary first-aid clinic is opened in the village, touring veterinary officers keep their eye on the work and the society keeps in close touch with the nearest veterinary hospital, to which they send their difficult cases. (See ANIMAL HUSBANDRY.)

Village. The village is the oldest institution in the world and is full of ancient wisdom and virtue. The villagers are patient and hospitable, loyal and hard working. They are very suspicious of strangers, particularly those who come from towns, as the experience of ages has taught them that most strangers who visit them come to get something out of them not to bring them any good.

The village used to be almost if not quite self-sufficient but times have changed so much that self-sufficiency is no longer either possible or desirable. In fact the village has, by reason of its isolation, dropped behind in the march of civilization and is missing the improved health, wealth and happiness that the new light and knowledge can bring to it.

The object of 'uplift' is to bring these good things to the village—not by order and not in any superior or condescending way, but in humility and brotherly love to show the villager how he can himself improve his present way of living.

Village Co-operative Forest Societies. (As developed in Kangra District, East Punjab.) All those who have rights in the land join together and make a Co-operative Society. A working plan of the whole land of the village is then drawn up by the Committee of the Society—which of course includes Forest, Co-operative and Revenue officers—and is discussed and approved by the general meeting and carried out entirely. This society with the help of the Forest, Co-operative and Revenue Experts administers not only the village *common lands* but the Government *forests* inside the area of the village. So much land is kept as forest, trees are planted in such and such land, and other land is kept for cutting *grass* and so on. If the members agree all animals are stall-fed, and there is no *grazing*. This is best of all, but at first members are hard to persuade. Whatever grazing is done is by *rotation* and the *pasture* is properly developed. As long as the society does its work satisfactorily the income of the Government forests in the area of the village is credited to the society.

These societies are very popular and are doing excellent work in preventing erosion, *conserving* the *soil* and vegetation, planting trees and *reclaiming* eroded land. One great advantage of the society is that the members realize the importance of treating the Government forest properly as well as their own, and instead of trespassing, grazing, felling and lopping in the Government forests and multiplying Forest Act offences, they co-operate with the Government in preserving and improving the Government forest as well as their own.

Village Guides (Men). An excellent way of spreading the knowledge and practice of better living and better farming. They must be carefully trained in all the simple things that make up village *uplift*, paid a proper living wage and sent to live and work in the villages, working up to about one to every two thousand homes. Their wives must also be trained at the *Domestic Training* School, not to preach, but to live the new life, so that their homes will be models, and the men will not have to demonstrate in the village what they don't practise in their own homes.

The guides' work will be more doing than preaching and they must be very handy men and quick to use their hands to help villagers and show them the new ways. *Ex-service men* are the ideal material for village guides and this service should be organized at all levels up to a provincial director who might also be the director of publicity, as the village guide is the last and most important link in the chain of publicity. Where the *Dehat Sudhar Committee* is well organized, it might be the controlling authority of the village guides.

The village guide conducts discussions round the radio, distributes and explains posters, collects the people when a touring *cinema* or *drama* comes and generally keeps the uplift business alive, argues, persuades, explains, demonstrates and gets the people to try the new things. (See DISTRIBUTION OF SEEDS.) When an *Expert* is coming he warns all those who need his advice and after the expert goes he helps the people to put his advice into practice.

The village guide is the handmaid and go-between of every department, and the friend and helper of every villager.

Village Guides (Women). They are not the wives of village men guides. They are a separate women's service, and are even more necessary than the men guides, as women are more important than men in raising

the standard of living and have been so long neglected. They must have a full domestic training and be properly paid. They must live in the village they serve and so they must be if possible local women so as to avoid any difficulty about that. They will be controlled and supervised and assisted by touring women of all grades up to provincial directors of women's welfare.

Only in this way will the village women make up the leeway of ages and play their full part in raising the country's standard of living. Village panchayats and co-operative societies can help greatly in both finding suitable women for training and in enabling them after training to live and work in the villages.

Village Organization. In every country where civilization has spread to the villages, the village is organized. Every village should have a *Panchayat*, to administer it and to settle all quarrels and to punish petty offenders. Every village should also have one or more *co-operative societies.* They are the ideal *organization* for our villages. A society can be formed for every need of the village, and for general purposes there is the Better-living Co-operative Society. It is difficult for Government or anyone else to help individual villagers, but once a co-operative society is formed it becomes easy for them to get help and advice in whatever their need or business is.

The co-operative societies and the panchayat between them can carry out the whole *uplift* programme and make the village a really pleasant place to live in. There is room for both in every village and there is so much to be done that there is no reason for them to quarrel. They can come to an agreement as to which shall do each kind of work. In general the panchayat, carrying the authority of the law, performs the duties imposed on it and imposed on the people by law. The co-operative society manages the things which the villager does voluntarily without the compulsion of law.

The panchayat can also help on the voluntary side by doing things for the benefit of the whole village, such as mending roads which are rather beyond the scope of a co-operative society unless it has a very wide membership.

The villager requires many things which either the panchayat or the co-operative societies can organize—a games club, books, *newspapers* and a *radio;* a suitable place for each of them so that people can read, listen to the radio and discuss what they read and hear. There are competitions of all sorts to be organized, the best garden, the best home, the best *flowers,* vegetables, cattle and poultry. There are cleaning days to be organized, the *village roads* to be mended and the fields to be terraced and embanked, *distribution of seed* to be arranged, manure pits to be dug, the drinking *wells* to be put right, *latrines* to be dug and the people taught to use them. The whole of village life has to be put right and if the village is well organized this can be done.

Village Progress Book. When villagers are beginning to 'uplift' themselves it is a good thing to have a file or book in the village kept by the chairman of the panchayat or the co-operative society. In it each departmental expert enters the programme chalked out for his department in consultation with the villagers. He then enters what is to be done first and who has agreed to do it. In this way the whole programme for the village is entered in the book and the order in which each item is to be carried out. Every visitor knows whom to ask for and what

to look for. Whether it is his own or another department's work he writes down what has been done since the last visitor came and then settles with the villagers and writes in the book or file what is to be tackled next. Objections and obstacles and their answers are all put down. In this way every department knows what every other department is trying to do and every department helps every other department to get it all done. All vagueness stops and there is no wandering aimlessly from village to village but definite tours to definite villages to see and stimulate definite work, and, as each item is ticked off on completion, to suggest further items for the villagers to discuss and accept and include in their programme of work.

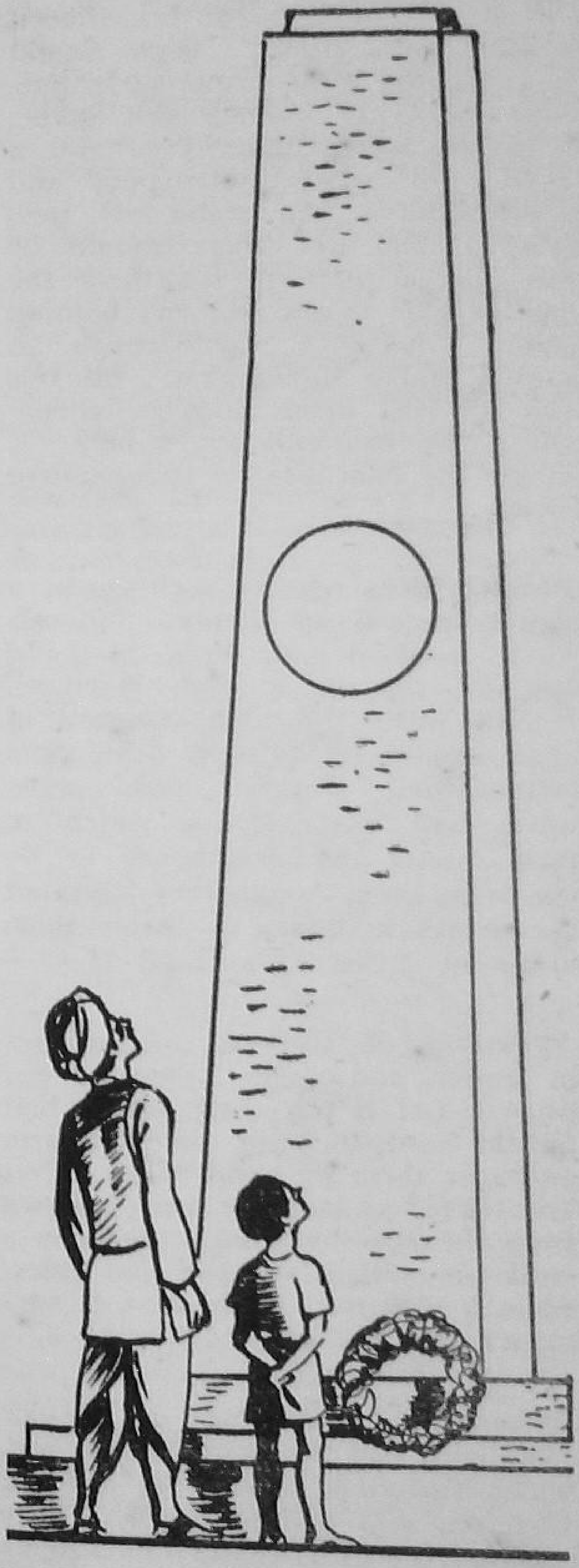
Village Schoolmaster. The village schoolmaster might well be bewildered at the description of the village school. His training and education are not very full, his pay is very small. (See CONDITIONS OF WORK.) He is cut off from the world of progress and enlightenment in his distant village. He gets very little backing from the big people who live in the neighbourhood, and the parents of his pupils, having rarely been to school themselves, are not always capable of appreciating his work. Little blame if he loses heart and lets the school become a routine of lifeless drudgery.

Is there a remedy? Yes, there is. If his wife has been to a domestic training school and there is a Co-operative Women's Institute in the village, she will at least be kept up to date on her side and will be an ally not a handicap. If there is a wireless set in the school or village with good programmes for schools and villagers and schoolmasters, that will be one good contact with the outside world. A good village weekly picture paper with columns for school children and schoolmasters will be another. Refresher courses, rural gatherings, shows and competitions will do a bit more. Touring officials can give great encouragement to the teachers and pupils. If he teaches practical uplift and his wife or some other female teacher runs a good domestic class, the fathers and mothers will not only appreciate his work but they will be very definitely interested and will come along to see his school and to ask questions and get his advice.

All these things will help and if the schoolmaster does his job to the best of his ability he will at least have the satisfaction of seeing things getting better in the village, better health, better crops, and happier children.

Violent Crime is becoming more and more common in our villages. The excuse given by the people is that they are a martial race and therefore cannot help fighting amongst themselves. This is nonsense. There are plenty of martial races in the world which only fight when their country is at war. Fighting and quarrelling come from lack of *self-control* and self-discipline. Self-control and self-discipline are instilled into children by their mothers starting the day they are born—with regular feeding and regular habits. (See UPBRINGING.) It is only trained mothers who can do this and therefore all mothers must be trained, both at school when they are children and at *Domestic Training* classes, when they grow up, or in *Co-operative Women's Institutes*. Mothers must also be given their proper position in their homes and the respect that is their due, so that they may be able to train both their sons as well as their daughters.

War Memorials. These should be something practical. After the first



war many memorials took the form of schools and colleges for sons of soldiers. People forget that soldiers have daughters as well as sons and that it is just as important or even more important to educate them as the sons. This time the war memorials must be something for the daughters and wives of soldiers, such as schools and hostels, *domestic training* centres and courses, *lady doctors, nurses* and women's hospitals, maternity homes, trained midwives, and then stipends and scholarships for all these things.

It was the neglect of women's *education* and women's *welfare* between the wars that kept the rural areas backward.

Washing Place for Women. (See WATERWORKS.)

Waste. It is the poor and ignorant who waste the most. They waste light and air by not having windows and ventilators. They waste manure by burning cow-dung, by not having pits and by not keeping the village clean. They waste water by not terracing and embanking their fields, nor keeping their field banks strong, nor building bunds whenever they can, nor learning the ways of making a little water go a long way.

They waste time, labour, money, land, everything by using slow and out-of-date methods, inferior tools, bad seed, bad bulls, etc. They waste food by letting rats and weevils eat their grain.

They waste money on ornaments, (see GOLD AND SILVER), extravagant weddings and other social ceremonies and on faction and litigation. They waste health in a hundred ways, such as by keeping the village dirty, by having no pits, no ventilation, no vaccination, and by not growing vegetables with waste

water from house, well or place of worship.

They waste women and children by not getting their midwives trained, and not paying them properly and not calling in doctors and by not using the hospitals.

Need I go on?

Water for Irrigation. (i) Rainfall, largely wasted because every field is not EMBANKED nor where necessary, TERRACED. This must be done to all *barani* land. Wherever possible BUNDS should be built to store rain water. Villages should form Co-operative Societies to build them.

(ii) *Jheels*, tanks and *nullas*. Even when these are only temporary, channels should be dug to the fields and the water lifted by pumps, Persian wheels, *jhalars* (water wheels) or by any other means possible.

(iii) Wells. (See WELLS FOR FARMING.)

(iv) Canals. Canal water should be used as carefully and as sparingly as well water so that there may be enough for everyone. The distribution of CANAL WATER is very scientifically organized but by carelessness, theft and bribery people try to spoil it for their own selfish purposes. (See ECONOMIZING OF CANAL WATER and OUTLETS.) There are many ways of SAVING WATER and of putting up with less than we think would be necessary.

Waterworks. The *well* is the women's club and should be a very nice spot. There should be shady trees there, the ground all round the well should be paved, the waste water (see DRAINS) should run in a pucka channel to a jolly little garden, the well should be closed in or at least have a roof over it. The water should be lifted by a pump or a Persian wheel and run into a tank with a row of taps for the women to draw water from. There should be a washing place—completely purdah—where the women can bathe. It should have clothes pegs and a raised seat where water-pots and small children can stand. If men bathe at the well there should be taps and a platform for them the opposite side to the women's bathing house. Finally a cattle-trough is wanted and a *dhobi* ghat. All this will not cost much and the people will gladly subscribe the money. A job for the Panchayat or Co-operative Society.

Wealth does not by itself mean a high *standard of living*, although wisely used it can help to build up and support a high standard. Wealth without a high standard of living usually means more debt, more faction and litigation, and more waste and extravagance which in turn excites the neighbours to do the same, even though they have not the wealth necessary to enable them to do so. (See IDEALS.)

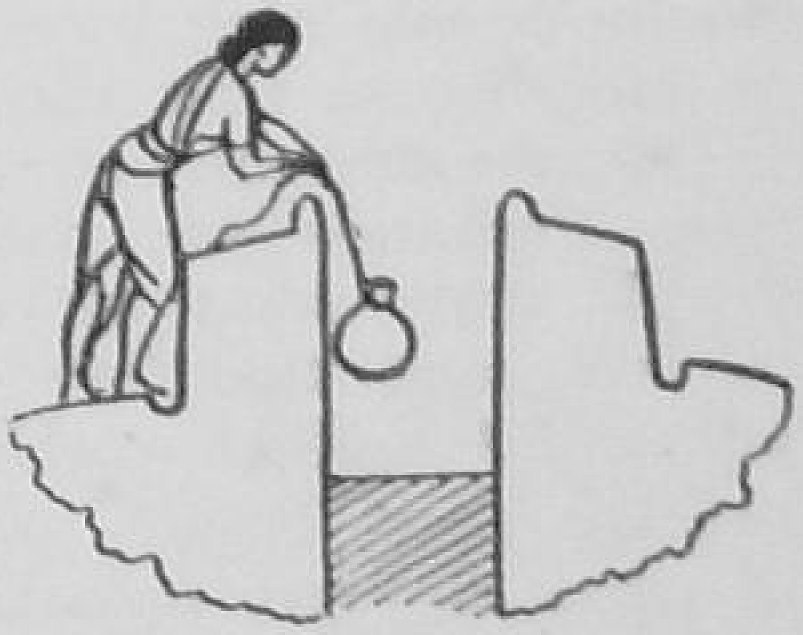
Weaning of Calves. Experience in India and other countries has proved that it pays best and is best for the herd, to wean calves at birth and rear them by hand. The calves are still fed on milk but it is all drawn from the cow by hand. One day a week the milk is weighed and entered in a register. (See MILK RECORDING.)

Weeding. Weeds use up the air and light, and the water in the soil, which the crops should get and are therefore very bad for crops. They are removed by HARROWING or by HOEING. Crops sown in *lines* can

be weeded far easier than crops sown broadcast, whether by hoeing, or by harrowing with a pair of bullocks.

Wells for *drinking water* should be closed in and fitted with pumps or Persian wheels. If these are not possible then use a special chain and bucket working on a windlass. Do not use a pulley, as the chain or rope, if run over a pulley, is bound to lie on the ground and collect dirt, whereas when a windlass is used, it is wound round the windlass and therefore never lies on the ground. People must never bring buckets or pots from their houses and put them into the well. This is a certain way to spread disease.

If the well cannot be closed entirely, it must at least have a roof to keep out dirt, and the platform round it must have a lip or ridge six inches high all round the well cylinder to prevent water splashing back into the well. There must be no bathing or washing of either people or clothes on the platform round the well. All that must be done elsewhere. (See WATERWORKS.)



The ground all round the well must be paved and a pucka *drain* must take all the waste water to a little garden. Wells must be cleaned with bleaching powder every now and then, especially when there is *cholera, enteric* or *dysentery* about. These diseases and other diseases of the stomach and intestines are spread by badly made well-tops.

Wells for Farming. The ideal form of irrigation. The man with a well is independent; he can water his crops just when they want it, and as he has to lift every drop he is very careful not to waste it. Whenever there is sweet water near enough to the surface to make irrigation possible sink a well. Even if the water is too deep to get much out, it will help to grow vegetables for your family and a little green stuff to mix with the dry fodder for the cattle.

Even if you have canal water, dig a well if possible, in case the canal is ever closed or breached, and to enable you to grow fruit, vegetables and other valuable crops. If you have enough water, it may pay you to use an engine, but consult the expert first or you may ruin your well. In sandy land it will pay you to line your water channels with *cement* concrete to save the loss of water from seepage.

If your well does not give enough water consult the EXPERT about a boring. A tube costs money but it is usually successful and greatly increases your supply.

A *bund* will often raise the water level in the wells for a long way down the valley in which it is built. When you build a series of terraces down a slope you will often find enough water below the surface of the lower terraces to make it worth sinking a small well for a few vegetables and some green fodder. (See EMBANKING.)

Wheelbarrow. Rubbish and ashes are carried on people's heads—women's of course—and their hair and clothes are made dirty by what is blown or shaken off the heaped-up baskets. A wheelbarrow is far cleaner and will carry much more than a head-load, but a good design is still wanted, which can be copied

by village craftsmen from materials easily obtainable in the village.

Why Should I? People are forever coming to us—particularly if we are officials—and asking us to help them in various ways. Some things of course which they ask for, it would be wrong to give them, or to do for them but there are many things they want which it would be perfectly right to help them to get, but doing so would mean a little trouble, thought or extra work on our part.

Some of us when we are asked to help at once say 'Why should I?' and there is no obvious reason why we should, as it would mean extra trouble for us and the benefit would all go to the other fellow. Some of us however say 'Why shouldn't I?' and there is again no obvious reason why we shouldn't, as at any rate it will help to make someone happy and after all it will not mean so great trouble and bother to us. To which class do you belong—'Why should I?' or 'Why shouldn't I?'? Our answer to this question will show whether we are trying to carry out the second great law of CIVILIZATION or are doing nothing to help to make this world a better place to live in. The more 'Why shouldn't Is' there are in a country, and the fewer 'Why should Is' the happier and more prosperous will that country be. So whenever you are asked for help don't say 'Why should I?' but say 'Why shouldn't I?'

Wind Erosion. Where the rainfall is very light the wind often blows the soil away in the dry season. The answer is to check the wind by growing trees on roadsides, field boundaries, *common lands*, waste land, Government lands, round tanks, on canal banks and wherever else possible.

Even where the rainfall is very light trees can be grown from seed with the help of trenches to collect whatever rain falls. But no tree will grow where animals *graze*, so stall-feeding is the only way to stop *erosion*, whether by wind or rain.

Wherever possible the lines of trees should be at right angles to the prevailing winds.

Even in areas of light rainfall the fields should have banks on the side towards which water flows in a heavy storm. These help to consolidate the *soil* and to hold it up, particularly if there are trees, bushes and grass on the bank. (See TOP-SOIL and EMBANKING.)

Wives. The wives of all those, of whatever department, however humble or however exalted, who work among people must have a full *domestic training* so that their homes may be demonstrations of the new life their husbands are paid to spread. People copy what we do, not what we say, and therefore much of the labour of uplift workers is wasted because their homes are not models of what they are preaching. Besides, no one can fight in front and behind at the same time. A worker cannot be expected to fight low standards in the village all day and then go home in the evening and fight low standards in his own home. He must get inspiration and encouragement from his home. That is why when we visit a rural worker a few years after he has left his training school we are so often disappointed with what we find. He has slipped back to his home standard. Few people can live very far ahead of the standard of their own homes for very long. The *standard* of a country is the standard of its homes. The homes are in charge of the *women*. Therefore until the women are trained, the

country will never make real progress.

The same applies to the wives and daughters of rural leaders, from lambardars, panchayat members and co-operative committee men, contractors, traders, right up to big landlords, and Assembly members and ministers. Leaders must lead, and this means that their families and homes must be models and *examples* of the new life. Moreover their womenfolk must actively spread the new light among the people. Social service is the DUTY of all, and particularly of those who claim the *privilege* of *leadership* and social position.

Other things being equal, preference should always be given in promotions and in appointments, whether official or semi-official, to those whose families are doing their duty in this respect.

Wolf Children It is undoubtedly a fact that wolves have taken and brought up human children. Some of them have been recovered but the curious thing is that in no case has it been possible to undo the whole of the training given them in the few years of early childhood while they have been with the wolves. Does not this show how extremely important it is that those who are responsible for the training of children during their early years when what they learn has such a lasting effect, should themselves be very carefully trained? (See DOMESTIC TRAINING.)

Women are responsible for at least two-thirds of village life and it is they who alone can *raise the standard* of living. The men must do their farming and handicraft in the best possible way and not waste the money they get thereby. They must keep the village clean and not quarrel amongst themselves. But the home is in the charge of the women. They bring up the children, cook the food, make and mend the clothes, make and keep the home clean and bright and happy and healthy. It is they therefore that are responsible for the *standard of living* and they must be educated and trained so that they may know how to carry out their duties properly. (See HOME and WOMEN'S WELFARE WORK.)

One sometimes hears men saying that women are extravagant, frivolous, superstitious, or in some way inferior to men. If they are it is the men's fault for not insisting on their being trained and educated. We should not despise our womenfolk, we should be proud of them. And we shall be, when we devote as much money and attention to the training and welfare of our girls as of our boys. It is a virtue for a man to farm well and to look after his home and family. For a woman to do her best for her children and home is an instinct. As instincts are far easier to develop than virtues, we shall get better value for money spent on training girls and women than on training boys and men.

Women's Co-operative Service. (See WOMEN'S DEPARTMENTS AND SERVICES.)

Women's Departments and Services must be organized in the same way as the men's, at all levels from Provincial Directresses down to village workers.

At present the women have very meagre branches of the education and medical departments. As our object must be to send as many girls as boys to school, their branch of the Education Department must obviously be very greatly expanded. So must their medical and nursing

services as they have also to include a properly organized, staffed and equipped maternity service. The new departments will be (i) *Women's Welfare Service* from Provincial Directress down to village Women's GUIDES. They will work with the *Women's District Welfare Committees* and help them to co-ordinate and encourage all kinds of Women's Institutions, welfare work, training and education. They will help and advise District Officers and Government Departments in all matters affecting the interest and welfare of women and girls.

(ii) There must also be a fully staffed Women's Co-operative Service from Provincial Directress to village workers to run both the Co-operative WOMEN'S Institutes as well as all the ordinary kinds of Co-operative Society needed for the women.

(iii) DOMESTIC TRAINING must have its own service at all levels.

All these departments and services must be properly paid and given their proper status.

The *Panchayat* and the *Co-operative Society* can greatly help the work by finding girls to be trained as guides, nurses or teachers, by insisting on the *midwives* being trained and attending annual refresher courses, and by seeing that they are paid proper fees. They can find money for training midwives and other necessary work. They can find homes for the women who come to teach in the villages and can help to make life possible for them there.

Women's District Welfare Committee. Consists of representatives of departments and organizations teaching or working among women and girls, and of ladies who are themselves engaged in social work. This committee advises and helps in promoting the welfare of women and girls, in extending every kind of women's work, in co-ordinating all welfare work in the District and in utilizing all offers of voluntary service, and its representatives are invited to visit every institution in which there are girls or women.

This committee sounds as if it might be a great nuisance but Government consists almost entirely of men, and women's work and interests are so neglected and Government is so ignorant of what is needed that unless there is a strong committee of women to which the officers of Government can refer and which is ready to make suggestions and give advice, women's work will continue to be neglected as in the past.

Women's Institutes. The best way of bringing knowledge to the women is by starting a Co-operative Women's Institute in every village. The Women's Institute was invented in Canada to help the women in scattered hamlets and farms. Exactly that is wanted in India and Pakistan. A Women's Institute has three parts:

(i) Social: a gathering of women, to enjoy each other's society, and learn what they can from each other.

(ii) Recreational: they play games, act dramas or enjoy some other kind of entertainment.

(iii) Instructional: they learn something—it may be cutting out clothes, cooking, child welfare, whatever they want and can get teaching for. The Institute is a means of bringing all kinds of useful information to village women.

Women's Institutes should have office bearers, and a small subscription for membership and should conduct their proceedings with a certain amount of formality. Teaching may be done by a touring teacher, or by instruction in a magazine or leaflet. A Women's Institute needs one member who can read and write so that

she can carry on correspondence and explain instructions to the other members. Once a Women's Institute is formed, the women are in touch with the means of learning all the new things that will help them in running their homes and bringing up their children. When touring teams of teachers are organized to give DOMESTIC TRAINING in villages they must leave behind them a Co-operative Women's Institute before moving on to their next village.

Women's Welfare Work is even more important than men's as the *standard of living* depends more on women than on men. This work can no longer depend almost entirely on unpaid voluntary work and private money and subscriptions. There are all kinds of men's departments and institutions to teach the men their job of running farms and workshops and keeping cattle. It is high time the women had their own Women's Departments and Institutions to teach them their much harder job of running homes and keeping children! The women require education just as much as the men do. They also require *domestic training* of all kinds. They also require medical and maternity aid. They also require a special *Women's Welfare Service* of trained and properly paid women at all levels from the *village guide* to the Provincial Directress. They must also have their own Co-operative Department fully staffed with women and they must have Co-operative *Women's Institutes* in every village. In every district there must be a *Women's District Welfare Committee.*

Women's welfare work must be run by women not by men. The men have little knowledge of the women's requirements, and the women must have their own properly paid services. The money for their work must come out of the public funds. Until the women have caught up to the men, there must be no financial ceiling for women's welfare work. This will not mean Government bankruptcy as it will take many years to train all the women wanted. But it will mean that work will never be held up for the excuse of want of money, and everything possible will be done to push on all kinds of women's work.

Only in these ways will the leeway of ages be made up and the women enabled to play their proper part in *raising the standard* of living in India and Pakistan.

Women's Welfare Service must be organized at all levels from a Provincial Directress down to *village guides.* They must be properly paid and given proper status. They will work with the *Women's District Welfare Committees* and help them to organize and conduct all kinds of *women's welfare work*, training, education and institutions. They will help the District Officers and departments and advise in matters affecting the interests and welfare of women and girls.

Wool Spinning. A spinning-wheel has been designed in the Punjab which enables wool to be processed both for weaving and for knitting, so that all manner of knitted and woven goods, blankets, carpets, *durries,* tweeds, *puttees*, pullovers, socks, vests and everything else, fit even for export, can now be made in the villages. This, it should be noted, is a man's industry, as it is the men, not the women, who are idle for months together in the *barani* areas, where the sheep live.

The spinning and weaving of wool s taught by Government. It is a very honourable profession and should be learnt by the sons of both land-

owning and sheep keeping families. This work will be done best with the help of Co-operative Societies. (See SHEEP.)

Yellow-tail Moth. (See KUTRA.)

Yields. The yields of the crops and the milk yield of the cows in India are some of the lowest in the world.

Here are some of the causes:

(1) *Crops.*

(*a*) EROSION.

(*b*) The burning of COW-DUNG.

(*c*) The absence of PITS in which to collect MANURE.

(*d*) The use of bad SEED instead of good.

(*e*) Fragmentation of holdings which prevents GOOD FARMING.

(*f*) Too few farmers apply their BRAINS to the job of farming or try to learn all they can about new and better ways of farming.

(*g*) There is not enough work done on the farm. A good farmer is never IDLE—he weeds, he collects MANURE, he makes COMPOST, he mends his roads, he keeps his field banks in good repair, he is forever finding useful work to do.

(2) *Milk.*

(*a*) Cattle are graded down instead of up, because people prefer many useless cattle to a few good ones. (See LIVESTOCK.)

(*b*) EROSION is destroying all the natural PASTURE.

(*c*) Instead of SELECTIVE BREEDING cattle are allowed to mate promiscuously.

(*d*) Most cattle are underfed.

(*e*) Little pains are taken to control disease.

Young Men should try to learn and practise the most creative and constructive professions possible. Chemistry, engineering, electricity, doctoring, veterinary, crafts and industries, will all enable them to create wealth, to improve health or to prevent disease, and thereby will bring satisfaction and a good livelihood to themselves, and progress and prosperity to their country.

Remember, the 'blackcoat' jobs are not nearly as many as the 'overalls' jobs, and the more 'overalls' workers there are in a country the more jobs for everyone. The driver of a mail train earns, and earns well, as much as a Deputy or a Pleader, and is doing a first-class job.

The ambition of an educated young man is to marry a B.A. wife. Excellent, as long as she has had a good domestic training, but a domestic-trained girl can run a home and bring up children far better than a B.A. who has had no domestic training!

Youth Camps. Can these not be organized for college students? They could be held right out in the country. The mornings would be devoted to hard work such as building bunds, mending roads, planting trees, making terraces and field banks, filling up depressions, tidying up villages. In the afternoon and evenings there would be games, crafts, hobbies, dramas, cinemas, lectures and discussions.

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